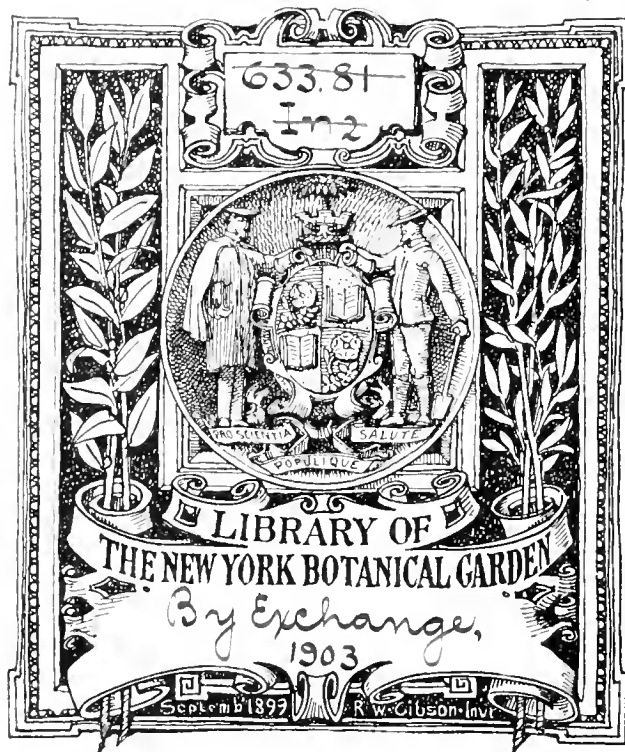


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Vol. XXVI. No. 1.

APRIL 1, 1902.

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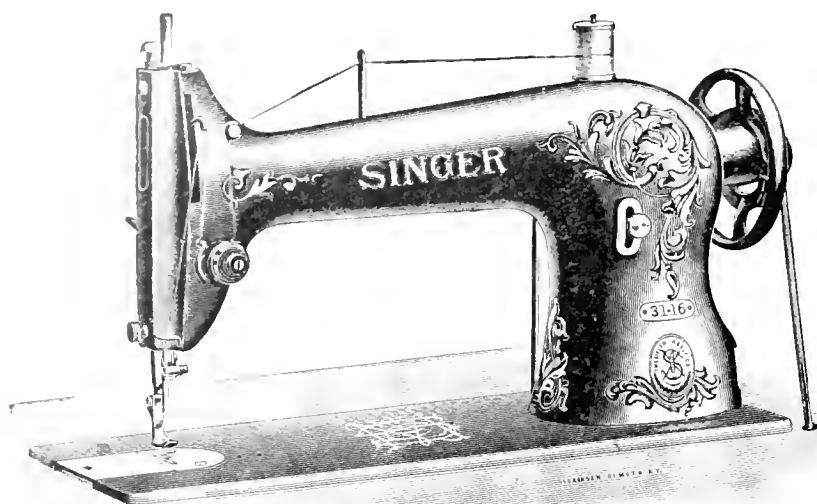
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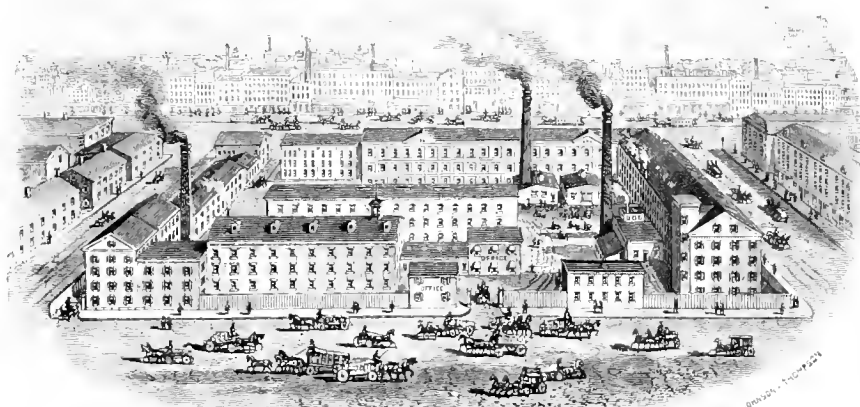
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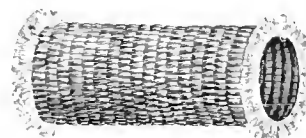
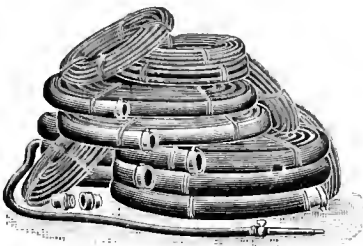
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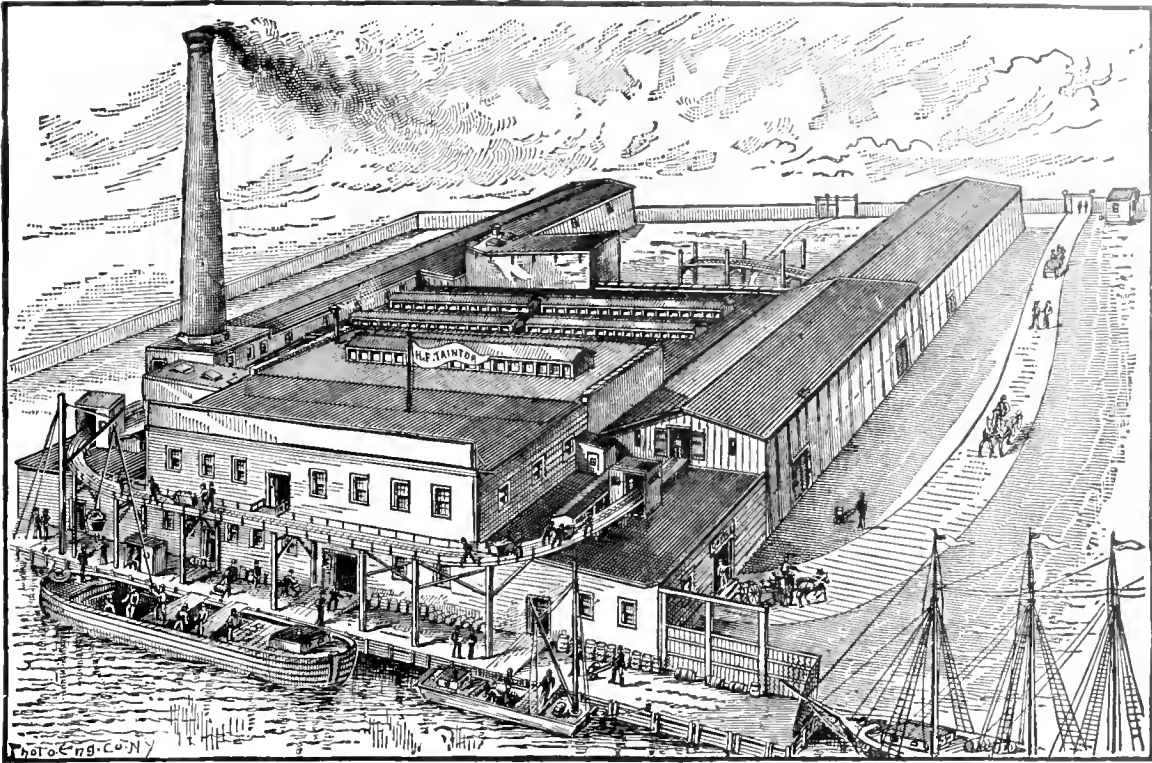
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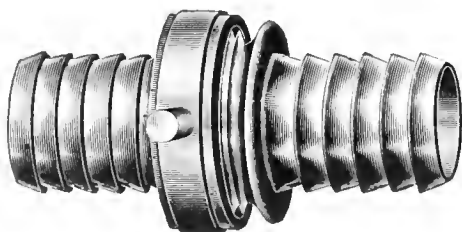
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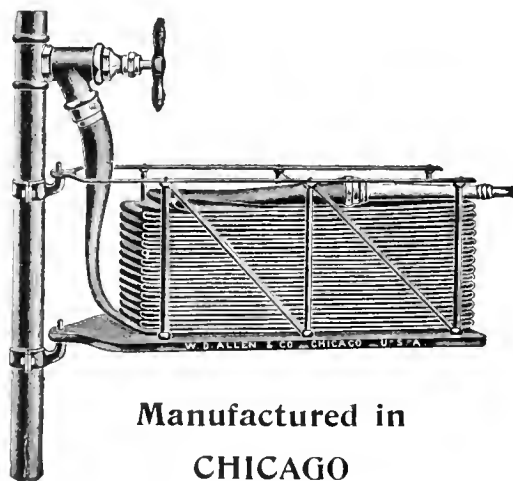


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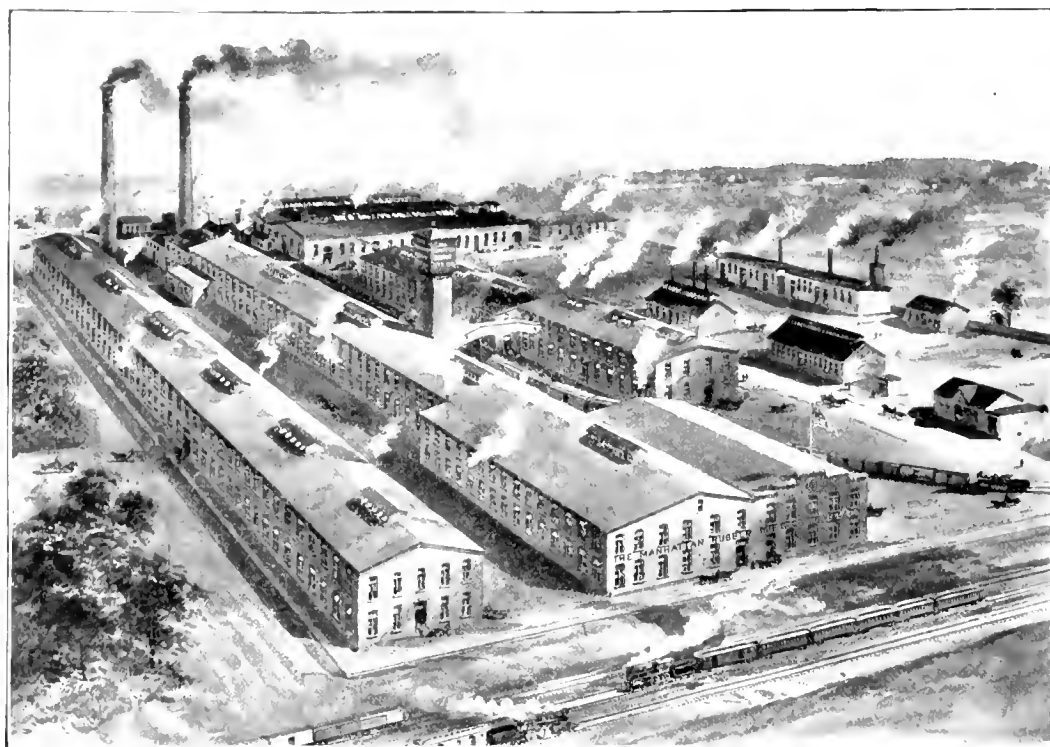
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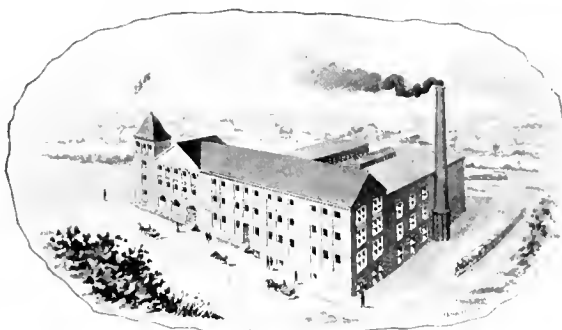
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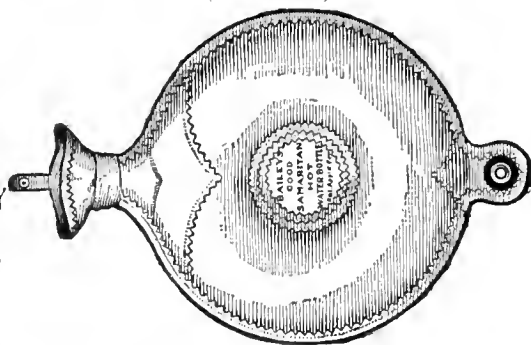


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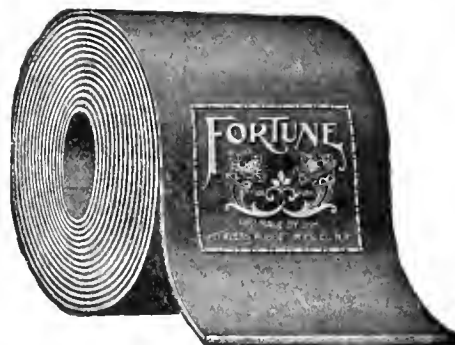
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THE NEW FINANCIAL PLAN.

THE new financial plan reported to be under consideration by the United States Rubber Co. is one that is liable to be somewhat misunderstood by persons who are not familiar with the rubber business as a whole, and more especially with the rubber shoe manufacture. Yet the plan is exceedingly simple, and one that many other rubber companies, were it possible, might do well to imitate. The company mentioned is a large borrower from banks, because in running its business on orders it expends millions of dollars for rubber and fabrics, in wages, and the like, months before any return can come from its customers. Banks are organized to do just that sort of lending. To make banking profitable, however, their loans are limited usually to three or four months, the discount being from 4 to 7 per cent. Nor will bank directors, as a rule, take a large line of any one firm's notes for discount. It has to be spread around, involving much work. If, therefore, the sum total needed be issued at once as first mortgage gold notes at 5 per cent. per annum, due in one or two years, and the investing public become the bankers, the company saves quite a sum in interest over the old system of discount, and no one can possibly suffer except the banks that lose that amount of business. The plan is wholly sound, and no doubt will prove successful.

THE TRADE TRAMP.

THE "tramp printer" is known wherever books are made or type is set. He has been made immortal in good prose, and equally in poor verse, and is really the only trade tramp that has been so honored. Yet his counterpart exists in all divisions of industry, even in the rubber trade. Now that it is brought to your attention you probably remember him, as he came into the factory office to see the "boss." Not, as a rule, a man who would get a job if subjected to a close phrenological examination, yet possessing an indescribable air of rubber knowledge that prevents a curt refusal, and this is just what wins the day.

Deftly he refers to other factories in which he has labored. With infinite tact he formulates reasons for leaving, and even while common sense urges that he will flit just as he becomes useful, he gets his wish. For a time he works well and rises rapidly. His wide experience, his dirty, well-thumbed note-book, his many knacks, give him a decided advantage over the plodding workman, and just as the employer begins to plan a place of responsibility for him that would for ever put him beyond want, comes the ancient unrest, and he is gone. Gone with or without excuse; again a tramp, pioneering in new fields. It is probable, nay sure, that he cannot help it; a rover by nature, he must move on.

The practical, the industrious, the honest, see in him little less than the vagabond, and dislike him accordingly, but he is more than that. He is in fact the "little leaven that leaveneth the whole lump." He unifies the trade to an unthought of degree. He gives to the workmen views of other mills, other bosses, other methods. Whether he can-

... evil in his roving mission depends wholly upon the way in which the dominant figures in the trade carry themselves and administer their affairs. Not in the least enviable is his life. Nor will it ever bring wealth or respect, but he is as necessary in the great industrial economy as is he who lives and dies in his native factory village. He will always be the rover. He cannot reform or be reformed.

Employ him, therefore, for charity's sake, if you can, and do not forget that as he tells you in confidence of another's compounds and processes so will he impart yours to another.

FACTS ON BOTH SIDES.

THE advices from Accra (West Africa), printed in another column, show a decline in the production of rubber in the Gold Coast colony, from the highest figures, reached a few years ago, amounting to 75 per cent. A similar decline has occurred in various other regions of Africa. On another page, however, a letter from Manaus predicts an important addition to the supply of "Pará" rubber from certain tributaries of the upper Amazon that have never yet been "worked," and a map is shown embracing perhaps the richest rubber section on the globe, the development of which seems likely to be promoted under the auspices of the Bolivian Syndicate. Thus is rubber exhaustion on one hemisphere offset by the revealing of new supplies on another. But not all the new sources are to be counted on as permanent. Some of the fields referred to, on the Amazon and in adjacent regions, yield the rubber known to the trade as "Caucho," and when these new supplies are attacked, the same result will follow as where "Caucho" has been gathered hitherto—the trees will be exterminated. But there is another side to this question. On more than one page of this issue are notes on rubber cultivation, the most extensive work in which relates to the propagation of the *Castilloa elastica*—the species which yields "Caucho." Thus in a single issue of our paper will be found facts to support either side of the question whether ultimately rubber will become a scarce article. It all depends upon whether the reader is an optimist or a pessimist. For the time being, at any rate, there is no reason for alarm; the shortage in the Pará crop for this season which was predicted by some members of the trade has not yet become a fact, and the output from the Congo country so far this year again breaks all records, although at the end of 1901, the opinion prevailed at Antwerp that probably the limit of production in that region had been reached. Which would indicate that the crude rubber trade is still a speculative one.

THE MARKED FACIAL RESEMBLANCE between Prince Henry of Prussia and the Editor of THE INDIA RUBBER WORLD, noted by many in the trade, in spite of grave fears to the contrary, worked no ill either to the paper or its publisher. A rigid examination of the territory over which the Prince hurried while in the United States, fails to unearth any attempt on his part to collect a single dollar, either of subscription or advertising money, due us. We are bound, therefore, to consider

his blondness, facial angle, and the cut of his beard as a delicate compliment to THE INDIA RUBBER WORLD, and to the American people as a whole.

THERE HAS BEEN A FURTHER POSTPONEMENT, until 1905, of the selection of names to occupy the panels in the "Hall of Fame" at the New York University, which have remained vacant since the first election, two years ago. This will afford a better opportunity for those who desire to secure the inclusion of Charles Goodyear in this list of distinguished Americans.

HAMBURG'S CRUDE RUBBER ASSOCIATION.

HAMBURG, which is rapidly forging ahead as a European rubber market, has just scored another point by establishing, under the name of Hamburger Kautschuk Verein what is believed to be the first properly constituted association of rubber merchants and importers existing anywhere. According to the rules, adopted by a recent largely attended meeting, the aims of the new association include, among others, the furtherance of anything tending to increase the importance of Hamburg as a center for the import and distribution of raw India-rubber, and the establishment of suitable and generally recognized market terms and customs; the formation of courts of arbitration for the prompt and friendly settlement of disputes between members, and the periodical issue of local rubber statistics. Provision is also made for coöperation with other German or foreign associations pursuing similar objects, as well as for the admittance of manufacturers should they desire to join.

The first president is Mr. Albert Weber, of Messrs. Weber & Schaer, a gentleman well known in German as well as British and American rubber circles. The council consists further of Mr. Albert Winkelmann (vice-president), Mr. Gustav F. Hübener (honorary treasurer), Mr. Felix Dorn (honorary secretary), Messrs. Otto Marcus, C. H. Lüßmann, and J. Wilmer. Over twenty firms have already joined, including practically the whole of the leading firms of rubber merchants in the place, and the association, whose motto is, "Unity is strength," promises to become an important factor in the growth and development of Hamburg as a rubber market.

The credit for the formation of the new Association is largely due to Mr. Felix Dorn, junior partner of the well known firm of Hecht, Levis & Kahn, of London and Liverpool, who, for the last six months or so, has been engaged in organizing the new branch of that firm in Hamburg, and during that time has been frequently and forcibly struck by the entire absence of coöperation between the different factors constituting the market and the consequent want of generally recognized rules as to arbitration, market customs, and the like. It is hoped that all this will now be altered by the establishment of the above named association.

Messrs. Gustav F. Hübener and C. H. Lüßmann are both old established well known rubber brokers; Messrs. Winkelmann and Wilmer are important importers; and Mr. Otto Marcus has been for many years a partner in and is now the sole proprietor of the very old and highly respected firm of Herman Marcus, merchants and importers. Mr. Dorn has been connected with Hecht, Levis & Kahn since 1886, after having acquired a valuable commercial experience both on the continent and in Great Britain.

THE capital stock of the Joseph Banigan Rubber Co (Providence, R. I.) has been increased from \$1,000,000 to \$1,500,000.

RECLAIMING RUBBER IN ENGLAND.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In an article by your "Regular Correspondent" on the India-rubber trade in Great Britain, there is a paragraph [February issue—page 140] no doubt referring to ourselves and our methods of manufacturing recovered rubber. A statement is there made that our system of guaranteeing the specific gravity and content of mineral matter involves considerable difficulty, and that French chalk and other drugs being unacted upon chemically, it is not possible to do this.

We think it is only fair to ourselves that this statement should be contradicted. No one who does not completely understand the very special processes which we adopt in our manufacture of recovered rubbers, could be expected to find anything but difficulty in arriving at the results which we obtain, nor do we propose to aid our critics by enlightening them as to our methods. We are, however, continuing to offer our goods with the guarantee, and if any time it be proved that our guarantees are not reliable, then it will be time for your "Regular Correspondent" to speak adversely of our methods of doing business. We would respectfully suggest that until that time arrives he should give us the credit of being able to do what we promise.

We should take it as a favor if you would, in your forthcoming issue, give publicity in a few words to these statements. Yours faithfully,

THE RUBBER CHEMICAL CO., LIMITED.

J. BARCLAY, Managing Director.

Mitcham, Surrey, England, February 26, 1902.

HOW TO DO BUSINESS IN GERMANY.

IN a letter from Berlin to the *Chicago Record-Herald*, their special commissioner, Mr. William Eleroy Curtis, writes of the opportunities for the extension of American trade in Germany, concluding his letter as follows:

"But whoever comes here to sell American goods must do business on the American plan. It is also necessary to observe the moral law with scruples. Many Americans have come to grief by trusting German methods, but more have failed because of misrepresentation. The Germans cannot be humbugged more than once, and the merchant who attempts it might as well give up business, because his reputation will be destroyed. The commercial code is more strict and exacting than in any other country. There is a good field in England for all kinds of bogus operations. The English like to be humbugged, but the Germans are not to be trifled with. There is even a law to punish misrepresentation in mercantile trade."

TROUBLES OF THE CABLE TO MANAOS.

ONE of the Manáos newspapers, *A Federacao*, is devoting much energy to its attacks upon the Amazon Telegraph Co., Limited, owing to the frequent interruptions in the cable from that city to Pará—said to have covered an aggregate of 180 days during 1901. "The matter is of general interest," says the Manáos paper. "It affects all classes. We insist upon the right to a good telegraph. We pay for it, and dearly too." Not only is the Amazon river cable subsidized liberally from the public funds, but the state of Amazonas contracted with the cable company for an overland telegraph connection between Manáos and Parintins (as a substitute for one section of the cable), on terms which practically made the line a present to the company, and still Manáos merchants are isolated from the world—to the great disadvantage of the rubber trade, particularly.

Besides, the rates are complained of—2 milreis [=48 cents at

the recent rate of exchange] per word between Manáos and Pará. And it is evident that at least some people do not admire Mr. Mardock, the manager of the cable company, to whom *A Federacao* devotes these few lines:

"Not any personal animosity whatsoever against Mr. R. Mardock moves us to attack him with severity. We see in Mr. Mardock nothing but a manager of the company, on whom the responsibility should rest. The company should select another manager, more critical, more serious, more thoroughly educated, more honest, more respected, more ambitious, and less indifferent. This Mr. Mardock *cannot* remain. He is incompatible with the Amazon population, repulsive and unacceptable to the commerce of Manáos, and deprecated even by his own serious and prominent countrymen.

"Mr. Mardock, quit!"

AMERICAN CYCLES AND TIRES IN CHINA.

AN American firm recently sent a consignment of bicycles to southern China. They were laid down, including freight and charges, at \$57 Mexican (about \$26 gold) each. They were placed on exhibit, and were thoroughly inspected and tried by all classes of buyers. The manufacturer unfortunately did not care to place his own name plate on the machines, which cast suspicion upon the lot at once. Being without parentage, their sale could not aid an introduction of future consignments. It would not have been necessary for the firm to have placed its own name on the wheels; any name would have done, as long as they were good wheels. The main fault was that the handle bar was so low that the rider had to lean forward. Cyclists in southern China are not "scorchers," and like a high handle bar and a comfortable seat. The tool bags were not sufficiently complete; and as it is difficult to obtain supplies, this item was of more importance than it would have been had the buyers been nearer the factory. Another defect in a number of the wheels was that the tires were found punctured in places, owing to imperfect finish of their terminals. Some of the tires, too, had a series of minute air holes, pronounced by experts to be due to flaws in manufacture. These tires admitted of being pumped, but quickly ran down. This possibly would not have been a serious matter, had the wheels been nearer the factory. Three of the wheels were finally sold at \$90 Mexican (\$42.57) each, and the balance were turned over to an auction firm and netted \$60 Mexican (\$28.38) each.—*The British Trade Journal*.

THE India-Rubber, Gutta-Percha, and Electrical Trades Directory and Year Book, 1902, is published by Maclaren & Sons, 37 and 38, Shoe lane, London, the proprietors of *The India-Rubber Journal*. It is intended as a ready reference book for the rubber man's desk, in respect to weights and measures, postal rates, foreign money equivalents, factory and workshop acts, import duties on rubber goods in various countries, British statistics of rubber imports and exports, and the like. Several pages are devoted to "The Chemical Examination of India-Rubber Articles," and there is a catalogue of rubber goods, in English, with equivalent expressions in French and German. Apart from this, the book is made up of blank pages, dated, for use as a diary. The book is substantially got up, $6\frac{1}{2} \times 11$ " in size, and the price is 2s. 6d.

THE governor of Connecticut has authorized the statement that he will revoke the commission of any notary public in that state known to him to use a rubber stamp in lieu of such official seal as is provided for by law.

CRUDE RUBBER CO. NEWS IN BRAZIL.

THE leading daily journal in Maráos, *A Federacao*, in its issue of February 15, gave the latest news received in that city by that date regarding the Crude Rubber Co. (New York) which went into the hands of a receiver on January 4 last. *A Federacao* comments on the news as follows:

"THE CRUDE RUBBER CO.

"The rumors which were with persistency circulating about the failure of the important company whose name forms the heading to this notice, were—we are glad to say—without sure foundation. The latest news from New York is to the effect that only one note endorsed by the Crude Rubber Co. had been protested, and that this fact started the alarming rumor about the company's financial situation. The truth, however, is that the powerful enterprise actually owns stock which, according to current quotations, is no less than \$3,000,000 in value. The note protested was to the value of \$5000. According to the explanation given by the director of the company, there have been some particular reasons for the Hempstead bank not accepting the note referred to; this fact, however, does in no way warrant any prejudice against the Crude Rubber Co. As our readers ought to know, Mr. C. R. Flint, treasurer of the Maráos Railway Co., and who is interested in other enterprises in this capital, is also one of the directors of the Crude Rubber Co. And this is the cause of this unjustified rumor which has affected our commerce—all the more since a Maráos paper several days ago put it in circulation."

A CARD FROM R. F. SEARS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your publication of February 1, under the caption "The Recent Failures in the Rubber Trade," there are inaccuracies, which I beg you will correct. You state that the Crude Rubber Co. "took over the business of R. F. Sears & Co., of Pará, established in 1881," while in fact the firm of R. F. Sears & Co. of Pará—now in liquidation—has not and never had, any connection whatever with the Crude Rubber Co., or business relations. The firm of R. F. Sears & Co. of New York was established in 1890 as an importing and commission house, and was an outcome from The Sears Commercial Co. R. F. Sears & Co. of New York went into liquidation in 1897, when the treasurer of the Crude Rubber Co. was entrusted with the settlement of its accounts; the profit of that business, however, has not yet been realized by R. F. Sears & Co.

The Sears Pará Rubber Co. was organized in 1897 with an incorporated capital of \$100,000, consisting of good will of the firm of R. F. Sears & Co.—vested in R. F. Sears—and sundry accounts and properties belonging to said firm, and which is the only capital it ever had, except profits made, chiefly as buying agents for the Crude Rubber Co.

The entire stock—except directors' shares—was issued to R. F. Sears & Co., Pará, Brazil, and deposited in hands of a trustee, who is responsible to R. F. Sears & Co. for the same. The Crude Rubber Co.—or the party claiming authority at that time—agreed on account of the Crude Rubber Co. to take 25 per cent. of the capital stock of the Sears Pará Rubber Co. at par, and pay to R. F. Sears & Co. cash for same. The payment was not realized.

Neither R. F. Sears & Co. (in liquidation) nor The Sears Pará Rubber Co., are in any manner involved with the affairs of the Crude Rubber Co., now in hands of receivers, except that of balance due the former, as outcome of liquidation of R. F. Sears & Co. of New York, the Sears Pará Rubber Co.

having remitted to receiver balance due The Crude Rubber Co. in account-current.

Kindly make this correction in your next issue, that the standing of The Sears Pará Rubber Co. and R. F. Sears & Co. may not suffer from the condition of the Crude Rubber Co., the former firms being entirely solvent. Yours very truly,

R. F. SEARS.

Pará, Brazil, March 6, 1902.

[THE publication in THE INDIA RUBBER WORLD to which exception is taken in the above was based in part upon a type-written statement supplied to THE INDIA RUBBER WORLD in 1897 by the Crude Rubber Co., from which the following is an extract:

"The Company has taken over the business of R. F. Sears & Co., and all its valuable connections, both here and in Brazil, and Europe, and its correspondents on the Amazon are The Sears Pará Rubber Co., of which company Mr. Richard F. Sears is president. The firm of R. F. Sears & Co. was established on the Amazon in 1881, and since that date it has been one of the largest buyers of crude rubber in the world."]

"CONTINENTAL" TIRES IN ENGLAND.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Some time ago you brought out an article in your paper referring to the tire question in this country. As far as I remember, you mentioned in that article that our motor tires could not be used in this country, owing to the existence of certain patents. It will, therefore, doubtless be of interest to you to hear that this company has now made arrangement with the Clipper Pneumatic Tyre Co., Limited, of Coventry, by which Clipper-Continental motor tires—which are identical in construction and of the same material as "Continental" motor tires—are now manufactured by us, and can be obtained through the Clipper Pneumatic Tyre Co., Limited, of Coventry and London. For your information I am enclosing copy of circular which we have just sent out to this effect.

As you have in your pages always shown a great interest in the English trade, I feel sure that you will be glad to know these facts and you may possibly think it worth while to mention this new arrangement in your next issue. Yours faithfully,

CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.

PAUL BRODTMANN, London Manager.

64-65, Holborn Viaduct, London, E. C., March 11, 1902.

[THE circular referred to gives the details of the arrangement mentioned in the letter, with the statement that it is effective from February 28, 1902, until further notice.]

RUBBER PLANTING IN MEXICO.

THE president of the Tehuantepec Rubber Culture Co.—Mr. H. W. Bennett—writing from their plantation, says:

"Over 600 acres of land which, six months ago, was heavy virgin forest, has been cleared and partially planted. With a large force of laborers employed, it is expected that this area will be more than doubled by the month of June, when all new clearing will be burned over, staked, and planted (with the early July rains) with selected stock from our own nurseries. The soil is so exceedingly rich that it will readily support a much larger number of trees per acre than contemplated by our proposal to investors, and it is the purpose of the management to largely increase the number of trees to be planted, with the idea of cutting out (for profit) whenever the growth shall become too dense. This process is considered advisable, if for no other reason than to furnish proper shade for the trees which will later form the permanent plantation."

A GERMAN RUBBER MANUFACTURER.

FRANZ CLOUTH, founder of the Rhenish Rubber Works at Cologne-Nippes, was born at Cologne-on-the-Rhine, February 18, 1838, being the son of William Clouth, a publisher and printing house proprietor, and his wife Katherine, *née* Ritter. In his native town he attended the city high school (the present Gymnasium of Arts), completing the course, and then entered the commercial house of C. & P. Erlemocin, at Cologne. He fulfilled his military obligation in the Twenty-third infantry regiment. Next he was for one year merchant's clerk in the Antwerp commission house of L. Aug. Miller & Co. Later he was employed successively at Brussels and in London, returning to Cologne in 1860, where he represented various houses in the corn and spirits trades.

Happening to be requested to accept also the representation of the Magdeburg rubber manufacturing firm of C. W. Julius Blancke, Mr. Clouth soon decided to devote himself exclusively to this then new line of business, and gradually retired from all other business connections. After visiting Berlin, Paris, and London, to acquaint himself more fully with the India-rubber and Gutta-percha industries, Mr. Clouth, in 1864, began the manufacture on his own account, on a small scale. By 1870 the factory at Nippes required the employment of 70 workmen. The marked commercial development in Germany which followed the war with France in 1870-71 was not without a favorable effect upon the business founded by Mr. Clouth, a result of which was the necessity, within a short time, for the erection of a larger factory, employing 200 men.

Not only in Germany, but in Holland, Belgium, and Switzerland, the products of the factory began to find a sale, and finally its market extended over the whole of Europe. Various state authorities placed their orders with this firm, and particularly the German army and navy. Large orders were received for army tents, and for diving apparatus. Besides, the German railway administrations became good customers, and nearly every important industrial establishment in the country has had business transactions with the firm. All of which led to the continual growth of the factory and an increase in the number of employés.

The constantly enlarging scope of the applications of electricity led Mr. Clouth, in 1891, to erect another factory, for the production of insulated wires and cables. He thus was in a position to supply to an important extent the demands of the imperial German posts with equipment for telegraph and telephone lines, as well as the telegraph administrations of Switzerland, Sweden, and other countries. Electric lighting plants were also equipped for many large cities, including St. Petersburg, besides a plant for lighting the Kaiser Wilhelm canal. Mr. Clouth's electrical works have now been turned over to a separate corporation, of which he is the head, besides which he is interested in submarine cable works at Nordenham, with Felten & Guillaume and some important banking interests.

The three Clouth factories at Cologne-Nippes—the India-rubber and Gutta-percha factory, the electrical works, and the canvas or camp-tent factory—occupy an area of over 25,000 square meters [= 270,000 square feet.] There are employed ten steam engines, besides dynamos and gas motors, with a combined capacity of 1000 H. P. On an average 1000 working people are employed, and between 70 and 80 technical and commercial officers. Many of the staff have been connected with the works for a long time, being encouraged to remain by the scale of wages and the provision made in various ways for their welfare, as by hospital funds, funeral aid, pensions, and gratuities, as a result of which strikes have been unknown in the establishment.

Mr. Clouth, besides being the head of the establishment Franz Clouth, Rheinische Gummiwaaren-Fabrik, Cöln-Nippes—lately converted into a limited liability company, to which two of his sons have been admitted—is chairman of the board of the Land- und Seekabelwerke, Aktiengesellschaft, at Cologne, to which has been transferred the cable factory established by Mr. Clouth; a director in the Norddeutsche Seekabelwerke, Aktiengesellschaft, cable manufacturers at Nordenham, Germany; and a director in the Deutsch-Atlantische Telegraphen-Gesellschaft, in control of the cable laid in 1900 from Hookum, Germany, to New York. He is also president of the German Rubber Manufacturers' Union; member of the German Manufacturers' Central Union; member of the Union for the Protection of the Interests of the Chemical Industry; member of a committee of the Rhineland and Westphalia Commercial-Union; president of the board of the Manufacturers' Union for the government district of Cologne; and a member of various other associations for promoting general or special interests.



FRANZ CLOUTH.

While giving the closest personal attention to the management of his factory, Mr. Clouth still found time to make repeated visits to the various countries of Europe, making observations which he was able later to make of value as applied to his business. Nor has his interest been confined to private affairs. During the Franco-Prussian war he twice sent a train load of supplies for the German troops to the ramparts of Paris. He has shown a lively interest in German colonial development, at one time seeking to promote a trade with German Africa by the purchase direct of the rubber existing there. While the quality of the rubber detracted from the success hoped for in this regard, he has, none the less, supported all efforts for the further development of the colonies. He has also written a monograph—"Gummi, Guttapercha, und Balata"—which appeared first in 1873 and in an enlarged form in 1879 and 1899, taking an important position among works devoted to the rubber interest.

Mr. Clouth in 1862 married Miss Theodore Wahlenberg, of Cologne, who died during the Franco-Prussian war. In 1872 he married Miss Josephine Baum, of the same city.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

DESPITE the preliminary booming which heralded the attempted use of viscose in rubber by Dr. Weber, it does not appear that anything has as yet resulted to cause a commotion in the rubber trade. Viscose, it may be explained, is the discovery of Messrs. Cross and Bevan,

CELLULOSE
COMPOUNDS
AND RUBBER.

the well known paper and fiber experts of London, and the patents controlling its manufacture are held by the Viscose Syndicate, which is engaged in introducing the substance in the textile industries. The raw material used is wood pulp, which is dissolved in caustic soda and treated with bisulphide of carbon to form what is known to chemists as xanthate. This, when acted on by an acid, gives a soft product, soluble at first in water, but easily rendered insoluble in that menstruum. It can be reeled out like cotton and woven either alone or in conjunction with cotton. A sample of a union of mercerized cotton and viscose is before me as I write. It has a fine satiny appearance and is intended for dress goods, though so far the production does not seem to have advanced beyond the experimental stage. That it has possibilities in the textile trades there can, however, be no doubt, although it is not easy to speak so confidently with regard to its future as a component part of vulcanized rubber. It is difficult to see how it can successfully withstand the vulcanizing temperature if the rubber is present in any quantity at all. I am not familiar with the details of Dr. Weber's work on the subject, though I understand that he uses viscose, under a license from the Viscose Syndicate, in conjunction with Pontianak gum and rubber, the product which is certainly cheap enough, being intended to replace compound rubber in many of its mechanical applications. With regard to other compounds of cellulose, and their attempted uses in the textile industry, there is little but failure to report, and especially is this the case with the manufacture of artificial silk from nitrocellulose. The untimely fate of Pegamoid, Limited, will be fresh in the minds of my readers, and as yet there is but little to go upon in attempting a forecast of the operations of the new company established at Morton Green, near Manchester, to cut out rubber with a nitrocellulose compound somewhat similar to Pegamoid.

THIS is an article which has not hitherto appeared in the price lists of British rubber manufacturers, though there are

RUBBER
SPONGE.

palpable signs that it will in the future receive its meed of recognition. Already it is to be seen labelled as a novelty in the windows of our chemists and druggists, a fact which cannot of course fail to attract popular attention to its merits or demerits. I speak thus indecisively because I really know nothing personally or from hearsay as to its advantages over the textile materials which it is sought to displace by it. I remember noticing a large block of it in the pavilion of the Russian-French Rubber Co.—the "Provodnik" company—of St. Petersburg, at the late Paris Exhibition, and it was described to me by the official in charge as being practically the only specialty of the company. My informant added, I remember, that a considerable business was done in it with the United States. It is understood that the Russian mode of manufacturing this material is kept a secret, and I do not profess to have any knowledge of the details. Probably, however, I am not far wrong in attributing to carbonate of ammonia the main agency in producing the cellular

effect. In a recent patent of Carl Paulitschky, of Vienna, artificial sponge is made from leather fibers, milk of sulphur, rubber solution, and carbonate of ammonia, the expulsion of the last named body, at a temperature of 140° C., causing the mass to assume the desired cellular structure. It is added that the sponge may be obtained of any desired color by being submitted to a suitable dyeing process. This result may possibly be quite easy of attainment in a rubber substance where leather largely predominates, but the suitable process where rubber alone is concerned has not yet, to the best of my knowledge, been evolved, or, at any rate, attained any degree of success.

THE price of this mephitic liquid, after having dropped a year or two ago to £10 per ton, has lately, owing to a sudden increased demand from rubber works, fetched as much as £20 per ton, and buyers have had great difficulty in filling their requirements. There are only five or six makers in Great Britain, and last year one of these gave up the business as being unprofitable. The contract price ruling at present is about £15 per ton, which gives a fair return to the maker. The largest makers at present are the United Alkali Co., who use all their output, it is understood, themselves in the manufacture of potassium cyanide from sulphocyanides, there being now, as is generally known, a large demand for potassium cyanide in the gold mining industry.

BISULPHIDE
OF CARBON.GOVERNMENT
SPECIFICATIONS.

THE Æolian winds so long pent up in the laboratory of the Greengate Rubber Works have now been let loose in the pages of a contemporary, and the first subject of their furious onslaught has been the procedure and wording of our government specification forms for rubber goods. I say subject, and not victim, which the correct analogy from Vergil demands, because it has yet to be shown how far the government officials confess to having sinned in this direction, or to what extent their composure will be disturbed by the currents of Dr. Weber's criticism. To revert, however, to plain language, there is no doubt that among rubber manufacturers generally there exists a feeling that all is not quite as it should be in the text of those specifications, and that alterations and amendments are desirable not only in the interests of the trade involved but also in those of the departments themselves. Not that complete unanimity exists among the manufacturers as to the details of the suggested reforms; as far as I have been able to judge from casual conversation considerable latitude of opinion exists. Moreover, all are not equally condemnatory of the methods of testing which the government chemists in the plenitude of their wisdom have seen fit to adopt. It would appear to be the case that they do not rely entirely on the published tests in order to satisfy themselves that the goods are of the quality and nature required, but have also in addition unpublished tests which serve as valuable auxiliaries in their work of discrimination. But, however this may be, the subject as introduced by Dr. Weber is sure to meet with consideration in the trade; indeed I understand that it will assuredly engage the attention of the Rubber Manufacturers' Association, when in solemn Amphictyonic council assembled, though the veil of secrecy which enfolds the proceedings of the association will of course debar the outsider from sating his curiosity as to the details of any such deliberations. It is noticeable that the railway companies, both British and foreign, do not by any means fall into

line with our government departments as regards the details of their rubber specifications, and there can be little doubt that the tendency of the more enlightened of the companies to pin their faith to mechanical rather than chemical tests has justified itself by results. After all is said and done, results are what is wanted, and if an article containing some proportion of high class African rubber is found to answer requirements, then the clauses referring to the use of Pará rubber only had better be relegated to obscurity; and especially is this desirable seeing that no absolutely safe chemical tests exist whereby the presence or absence of an admixture of high class African rubber with Pará can be clearly demonstrated. Space precludes further dilation on this topic on the present occasion, though developments may be expected which will incite further reference.

THIS annual show, held at the latter end of February, presented, as far as rubber in particular is concerned, really nothing of novelty. Rubber manufacturers have evidently come to the conclusion that there is little to be gained by exhibiting their wares, and on this occasion they were conspicuous by their absence. Among the tire companies who exhibited were the North British Rubber Co.—with their "Clincher" tire; The Swain Tyre Co., of Harwich; The Shrewsbury & Challiner Co., and the Radax Co., the last named, not, however, having a whole exhibit to itself. A striking feature of the Clincher exhibit was a biscuit of Pará rubber weighing 7 cwt. and stated on the affixed label to be the largest block ever imported.*

ONE of our manufacturers complained to me recently that he had traced some trouble in his goods to the inferior quality of a certain delivery of recovered rubber from a firm who had long given him satisfaction. His expressed idea was that the recovered rubber dealer ought to give a guarantee with his goods, but this, it seems that the particular dealer referred to, in common with his fellows, was not at all inclined to do, the chief reason for dissent being ignorance of the conditions under which the recovered rubber was used. Now this position does not seem to me at all arrogant or unfair, because otherwise the dealer might easily let himself in for damages, or at any rate vexatious litigation, with the unavoidable feeling that he was the victim of circumstances over which he had had no control, and of statements which he was not in a position to verify. It does not seem at all probable that such guarantees will be given, and the best way to prevent complications, even though at some slight expense, would be for the rubber manufacturer to avail himself of the services of the analyst with respect to every new delivery of the recovered rubber.

THE colossal works of the British Westinghouse Co., in Trafford Park, Manchester, which are now approaching completion, received a lengthy notice in the London *Times* of February 25, as a sort of sequel to the trenchant comparisons which have recently been made in that journal between our supposed out-of-date methods and those practised in America to-day.==Two business amalgamations have recently taken place in the cable industry. At least announcement is made that Callender's Cable Co. and the

Henley Telegraph Works will be combined, and Rickard & Co., the cable makers of Derby, have undergone reconstruction, joining forces to a large extent with Messrs. Charles Macintosh & Co., two directors of which firm—R. K. Birley and F. H. Smith—occupy seats on the board of the Derby concern.==The Anchor Cable Co., of Leigh, Lancashire, will shortly commence operations. Mr. Henderson, managing director of the Ancoats Vale Rubber Co., is on the board, and will doubtless have the leading voice as far as the rubber details of the business are concerned. An impression which has got abroad with regard to the prospective manufactures of this company deserves some modification. The business will not, as has been stated, be confined to house wires, but will be principally concerned with the manufacture of traction cables of the vulcanized rubber, bitumen, and paper varieties.

DURING the riots which took place in February, at Barcelona, one item of intelligence which appeared in the London papers had reference to the strike of employés at the rubber factories. This notice might lead to the impression that Barcelona was an important rubber manufacturing center, which is not at all the case. I think I am right in saying that there are no rubber works, strictly so called, in the town, although there are several factories where piece goods are made up. Some years ago the manufacture was actually carried on in a small way in a branch establishment of Messrs. Charles Macintosh & Co., but after a few years it was given up. This firm still have, however, a making up factory, as also have Messrs. Mandleberg & Co. As the cloth is not produced in Spain, but has to pay import duties, which are rather excessive, the advantage of carrying on proofing operations in Spain is not apparent, and those English houses who do a Spanish trade find it more profitable to send out the proofed cloth, though there is a rather heavy duty, of 3 pesetas per kilo, to be paid. From all accounts the Spanish business in this branch of the rubber trade is growing in importance, though it must be remembered that the climate is a tricky one, subject, especially in elevated regions, to extremes of heat and cold and thus necessitating the supply of goods which will satisfactorily stand such conditions.

THE annual meeting and dinner of the Rubber Manufacturers' Association was held at the Queens Hotel, Manchester, on February 20. Among those from a distance who were staying at the hotel for the occasion were Mr. John Cooper of the Dermatine Co., and Messrs. J. E. Hopkinson and F. Pegler of the Northern Rubber Co.==

NEWS IN BRIEF.
The Droylesden rubber works are being broken up, and the machinery disposed of, there being no intention on the part of Mr. Baxter, who purchased the property at the sale by auction last year, to utilize his purchase for rubber manufacturing purposes.==With regard to the placing of recent government contracts, it is understood that Messrs. Reddaway & Co., Limited, have come in for a large share of the Admiralty order, and Isidor Frankenburg, Limited, are in a similar position with regard to the contract given out for ground sheets. The number of sheets required was about 60,000.==A patent has been taken out by Mr. R. Coulter, of 60, St. Paul's street, Leeds, for an improved rain coat. This consists of the ordinary rainproof material, which is now so popular, but has one or two features of the macintosh introduced. It is sought to remedy the defect, or alleged defect, of the ordinary rainproof in allowing rain to penetrate at the seams, by making the seams with a strip of rubber-proofed cloth. Further, certain parts are strengthened to resist the rain by having a coating of rubber varnished. I understand that the sewing machine is not used at all in the construction of the garment.

* The Bolivian display at the Chicago World's Fair, in 1893, contained a ball of Beni river rubber weighing 1181 pounds, which later was exhibited for several months in a rubber store window on Broadway, New York. In 1897 the New York Commercial Co. imported two balls of Pará rubber which weighed, on arrival, 834 and 1264 pounds, respectively. In making the latter 1200 kilograms of rubber milk had been used. The Crude Rubber Co. (New York) received, early in 1900, a ball of Islands Pará rubber, weighing 1120 pounds, which went at once into consumption.—THE EDITOR.

MANCHESTER
CYCLE AND
MOTOR SHOW.

WATERPROOF
TRADE
IN SPAIN.

GUARANTEES
WITH
RECOVERED RUBBER.

ELECTRICAL
MATTERS.

RUBBER PLANTING IN THE FAR EAST.

THE WEST COUNTRY, Kajang, Selangor,
Federated Malay States, January 13, 1902.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I send you herewith a printed copy of a memorial which the United Planters' Association of the Federated Malay States has sent to the Right Hon. Joseph Chamberlain, in support of a memorial which has already been sent to him by the Ceylon Planters' Association, and trust that it will be of interest to you.

E. B. SKINNER,
Honorary Secretary United Planters' Association.

To the Right Honorable JOSEPH CHAMBERLAIN, M. P.,
His Majesty's Secretary of State for the Colonies,
Downing Street, London.

THE HUMBLE MEMORIAL OF THE UNITED PLANTERS' ASSOCIATION OF THE FEDERATED MALAY STATES. Respectfully Sheweth:

1. That your memorialists desire to bring under consideration the intention of the government of India to plant 10,000 acres in the Mergui division of Burma with the Pará rubber tree (*Hevea Brasiliensis*).
2. That, whilst it is stated by the revenue secretary to the government of Burma that this proposed scheme on the part of the government of India is in the nature of an "experimental measure," your memorialists desire to point out that the acreage referred to is at least equal to, if not in excess of, the whole area planted by private enterprise in the Federated Malay States, and the Straits Settlements.
3. That for the last five years the cultivation of Pará rubber has been progressing steadily in this country, and promises in the near future to be the main agricultural staple. Owing to the continued depression of the coffee market, the Liberian coffee estates of this peninsula have been almost without exception planted up with Pará rubber, in the same way that cinchona and tea were planted, with such successful results to that colony, on the coffee estates in Ceylon; at the same time, a considerable area of virgin forest has also been brought under cultivation with this product in the Federated Malay States.
4. That in the botanical gardens of Ceylon and the Malay peninsula, Pará rubber trees, of a sufficiently mature age, exist in sufficient numbers to render it apparently unnecessary for the institution of an experimental garden of anything like the dimensions as that which forms the subject of this memorial.
5. That your memorialists directly contribute to the revenue of the Federated Malay States, by paying an *ad valorem* export duty of 2½ per cent. on all agricultural products, in addition to payment of rents and premiums for land; that further, in certain cases, special arrangements have been made with the government whereby it is incumbent upon land owners to plant up the whole of their concessions with rubber within a period of ten years.
6. That your memorialists submit that the production of so large an amount of Pará rubber by the government of India must result in serious competition with private growers, who have, under already existing circumstances, to contend against an enormous supply from the indigenous rubbers of other countries.

7. Wherefore your memorialists pray that his Majesty's government may take any necessary action in the matter, and your memorialists will, in duty bound, ever pray. On behalf of the memorialists,

E. B. SKINNER,
Honorary Secretary.

E. V. CAREY,
Chairman.

The memorial to Mr. Secretary Chamberlain, by the Planters' Association of Ceylon, referred to in the above letter of Mr. Skinner, is of the same nature as that from the Malay States, though going more fully into the details of the progress already made in rubber planting by private interests. At a recent meeting of the Ceylon association was read a letter from the governor of that colony, stating that Mr. Chamberlain did

not think that he would be justified in objecting, in the interests of Ceylon, to any encouragement which the government of India might think it wise to give to the development of the rubber industry in Burma. He had, however, submitted the memorial to the secretary of state for India, and certain correspondence had ensued, after considering which there did not appear, to the governor of Ceylon, any sufficient ground for making any representation to the Indian government on the subject.

THE PROPOSED PLANTATION IN BURMA.

IN regard to the proposed government plantation in Burma, to which objection has been made by the Ceylon and Malay States planters, THE INDIA RUBBER WORLD has been supplied with some details by Major J. A. Wyllie, I. S. C., F. R. G. S., secretary of the cantonment committee, at Rangoon, who has been designated by the government to have charge of the work. The extent of land to be taken up in the first instance is, roughly, 10,000 acres, and planting is to run over ten years, at a total cost of 2,10,000 rupees [= \$68,040], not to exceed 25,000 rupees in any year. *Ficus elastica* undoubtedly will be planted to some extent, but the main idea is the creation of reserves of *Hevea Brasiliensis*, the climatic conditions of the district having been shown to favor this tree. Other species, indigenous as well as exotic, will not, however, be neglected, and attention will be given to the preservation of any wild rubbers.

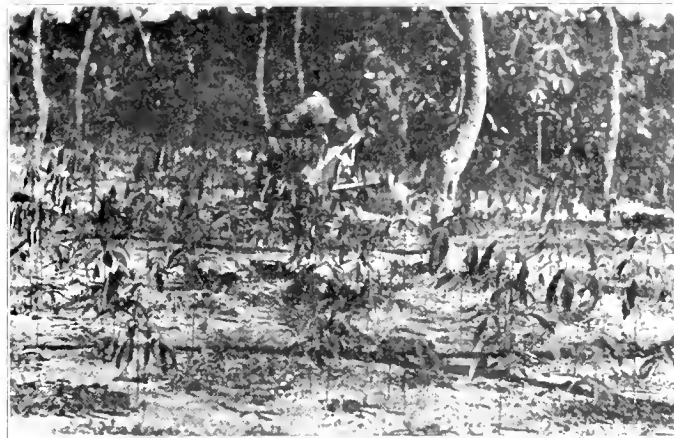
The Pará rubber tree has had twenty or more years' trial in Burma, in the Tenasserim coast tracts—notably at Mergui (latitude 12° N.), where not only the original trees supplied from Ceylon, but their offspring, have long since attained maturity and are fruiting freely. This plantation covers about 100 acres. Seed from it has been largely exported of late years to the Straits Settlements, to private planters, and it will form the nucleus of the larger plantation now under contemplation in South Tenasserim.

The municipal duties of Major Wyllie comprise (among other things) the management of public gardens and the disposal of public refuse in Rangoon. In these gardens for several years past Major Wyllie has been carrying out experiments in rubber growing, one result of which, at the close of 1898, was a stock of Pará and Ceará rubber seedlings out of proportion to the space available in the gardens. At the same time, objection had been made to the disposal of sewage in a region devoted to market gardening, whereupon Major Wyllie secured 32 acres of ground convenient to Rangoon, which was laid out as a sewage farm, and to which the rubber seedlings were transplanted. "The young *Heveas* seem capable of absorbing any amount of manure, and the farm itself is of great use in the opportunities it gives of observing the behavior and requirements of the Pará rubber tree during the period of acclimatization."

"On the whole," writes Major Wyllie, after detailing the experimental work done on his rubber sewage farm, "the culture of rubber in Burma may be looked upon, if not as the coming industry, at least as one of the industries bound to come. It may be objected that, if such minute attention to detail is required for the establishment of a rubber forest, rubber cannot be the wonderfully profitable crop it has been asserted to be. But this is a mistake. The more carefully minor points are observed and results noted in the first beginnings of the under-



Entrance to India-rubber and Sewage Farm.



Pará Rubber Seedlings. Ceará Cuttings in Background.

KAMBE EXPERIMENTAL RUBBER PLANTATION, AT RANGOON.

taking, the sooner will the needful lessons be learned, and learned once for all. An experimental farm has to be taken as such, pure and simple, and not as in all respects a working model of a plantation for profit. The question of profitable working has to be solved, too, and experimentally. But not on so small a scale, nor on the same lines altogether. For the present, all that is or can be claimed is that the successful raising of *Hevea* over 17 degrees of latitude along the coast of Burma and the Straits Settlements has been established. If yield and cost of collection, when the time comes, work out similarly, the case for rubber is proved."

The sewage farm is known as the Kambe plantation. It comprised, on July 10, 1901, the following number of rubber plants, besides which a large number of seeds had lately been placed in the ground: Pará, 2732; Ceará, 293; other species 62; total, 3087.

GUTTA-PERCHA IN THE MALAY STATES.

THE four Federated Malay States, under British administration, have shown a striking degree of material progress, so that their revenue has become larger than that of any of the British crown colonies, except Ceylon. There has been a disposition of late toward systematic conservancy of the valuable forest resources of the States, and some time ago Mr. H. C. Hill, inspector general of the Indian forest department, paid a visit to the States, resulting in a report containing much information of value, together with recommendations which seem likely to be carried out, with profit. Among other things, Mr. Hill favors governmental control of the extraction of India-rubber and Gutta-percha, which latter, it appears, exists to a more important extent than was supposed.

As for Perak, Mr. Hill is of the opinion that the state has an ample area of Gutta-percha producing forest, and that no recourse is necessary to the establishment of special plantations outside the limits of its natural growth. A working plan is advocated whereby the *Palaquium* forests be divided into a number of areas, which should come under operation at regular intervals of five to ten years; the operation would consist in giving more light and space to each *Palaquium* tree, and in transplanting seedlings to blank spaces.

In Selangor, while most of the mature Gutta-percha trees have disappeared, a very considerable number of young trees exists, and steps are now being taken to mark off as reserves those areas in which they have been found. Meanwhile the collection of Gutta has been entirely prohibited.

In Negri Sembilan already a separate forest department has

been established, and one reserve formed of 2000 acres of Gutta-percha, on which 18,000 young plants, trees, and stumps have been located, but no trees large enough to yield seed. This work is to be extended over a larger area.

In Pahang in 1894 the collection of Gutta-percha was for a while prohibited, with the result that the output from the district beyond the boundary of the state at once became greater—doubtless at the expense of the Pahang forests. To-day the policy of prohibition is again in force, with like results. The British resident favors throwing open the Gutta-percha areas near the boundary, the remainder of Pahang to be classed as a Gutta-percha reserve. By thus legalizing the collection of Gutta in the border districts, the state could derive a revenue from produce now removed surreptitiously.

A. M. Burn-Murdoch, of the Indian forest department, has now been appointed chief forest officer for the Straits Settlements and the Federated Malay States, and his first work has been an inspection of the Gutta-percha plantations in the Bukit Tamah reserve, Singapore, on which he reports favorably.

GUTTA-PERCHA FROM LEAVES.

THE *Agricultural Bulletin* (Singapore) regards the collection of Gutta-percha from leaves as a more wasteful and extravagant method than any other, and one that will sooner exhaust the supply wherever it is allowed. Under the system of felling trees only for the Gutta-percha contained in the bark on the trunks, many young trees escaped, on account of containing too little gum to make it worth while to cut them. These had a chance, later, to become mature trees, and to yield seed for a successive growth, besides their product of Gutta. Under the new system, however, young saplings an inch in diameter are chopped down for the sake of the few leaves which cannot otherwise easily be got at. "To suppose that native collectors will, or would if they could, carry ladders in places where Gutta-percha trees are found naturally growing, or that they will pay any regard to the future supply, is absurd."

To free rubber stoppers from taste, says the *Druggists' Circular*: "Cover the stoppers with water, add a few ounces of burnt sugar, and let them soak for a few days, stirring once or twice daily. After this treatment wash them and they are ready for use."

THE king of England, it is stated, has decided to have his motor carriages equipped hereafter with solid rubber tires, instead of pneumatics.

RUBBER NEWS AND VIEWS FROM MANÁOS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The law of October 14, 1901, passed by the congress of the state of Amazonas, provided that all Rubber and Caucho gathered in the state of Amazonas should be subject to a 20 per cent. *ad valorem* export tax, without distinction of destination, paying the same amount in all cases, whether exported to other Brazilian ports or directly to New York or Europe. The reasons which induced the government to take this step were manifold.

The neighboring state of Pará let Rubber leave its ports on payment of a 12 per cent. *ad valorem* duty, while here in Manáos one had to pay 22 per cent., in addition to the local or municipal taxes (3 per cent. *ad valorem*). As a natural consequence the greater part of the Rubber was shipped via Pará, as although one had to pay 5 per cent. to the state of Amazonas, 3 per cent. to the municipality and 12 per cent. to the state of Pará, it was more convenient to sell it there on account of cheaper freights and the greater number of buyers in that city. Besides this, there has been for the last three years or so a growing feeling of rivalry between the two states, beginning with the governors and extending throughout the whole population.

Then, in May, 1901, the state of Pará imposed a tax of 3 milreis the alquier on *farinha de mandioca* (mandioca flour) exported from that state, which considerably irritated the traders of Amazonas, as mandioca flour occupies a position analogous to that of wheat flour in the United States of North America, and the consequent rise in price of this article rendered it necessary to cease gathering Rubber in some of the poorer districts, such as the lower Japura, where only from 1 to 3 kilograms per diem can be extracted from an *estrada* of 100 trees.

It was also necessary to adopt some financial measure which would relieve the strain on the treasury, caused by the somewhat reckless expenditure of the previous administration, and as the amount of Rubber shipped via Pará amounted to nearly 7000 tons per annum, it was clear that by making this rubber pay 20 per cent. instead of 5, there would result a profit of never less than 4000 contos of reis, or about \$1,000,000 a year.

There was introduced in the congress at Manáos, therefore, on July 29, 1901, by Deputy Bittencourt, the draft of a law of which a translation follows:

THE Congress of the representatives of the state of Amazonas resolve:

Art. 1.—On and after the date of the promulgation of this law, the export duty on the products of this State shall be payable *ad valorem* and in accordance with the following table:

Rubber of any quality	20 per cent.
Nuts.....	10 per cent.
Cacao	3 per cent.
Guaraná.....	2 per cent.
All other products	10 per cent.

Art. 2.—The state cannot and will not officially recognize any but two qualities of Rubber—fine and coarse (*sernamby*).

Art. 3.—Of the duty on Rubber 33 per cent. shall be paid in Rubber, and should the treasury officials see fit, the whole tax may be paid in this manner.

To calculate the price of Rubber for the purpose of this act, the official *panta* organized by the chamber of commerce shall be used.

Art. 4.—The Rubber received in accord with the provisions of Article 3, shall be disposed of as the government may see fit.

Art. 5.—The governor shall have power to nominate and create such persons and offices as be necessary for the carrying out of the provisions of this law.

Art. 6.—All dispositions to the contrary are repealed.

FRANCISCO BITTENCOURT,
A. PERREIRA,
DOMINGOS ANDRADE.

On August 16 Deputy Perreira proposed that Caucho should be officially recognized as a class of Rubber, which, after some discussion, was passed. Several amendments of Article 3 were also proposed, but none was passed, and the law was finally signed on October 14 by the governor, Colonel Sylvenio Nery.

Unfortunately, owing to the formation of a ring among the Rubber buyers in Manáos, the price of Rubber remained very low, about 40 cents per pound, thus failing to give the financial results which the governor had expected. In November, Senhor Contienos, owner of several Rubber stations on the Jurua, petitioned the governor for permission to sell his Rubber in Pará, as there was a considerable difference in the prices ruling in the two cities, which, after mature consideration, was granted. Since then, one or two other firms have done the same thing, owing to the interminable interruptions of the cable between Pará and Manáos, which rarely works two weeks in succession. These incidents revived the hope, never dead, of the Pará people, that the government of Amazonas would repeal the law, which the government of this state has absolutely no intention whatever of doing.

There can be no doubt whatever that this law has produced the most beneficent results for the state of Amazonas, and the governor may point to it with pride, as the making of Manáos as a commercial force. The effects on Pará have been far greater than the merchants there are prepared to allow. The leading rubber firms there who had not already established branches in Manáos (Denis Crouan, Neale & Staats, Mells & Cia., etc.) have done so, and it appears to be merely a question of time when they will remove to this city altogether. Probably they only retain their head offices in Pará, as it is, because they still hug the fond delusion that the law will be repealed.

As to the assertions frequently made that Manáos cannot pack her own Rubber, it merely serves to show how deeply the law has wounded the commerce of the neighboring state. Of course the state of Pará still produces a good deal of Rubber, but nothing like the amount produced in Amazonas, and with this the city can doubtless get along very well. Finally, we in Manáos are, and have every reason to be, perfectly satisfied with the law, which has increased the export of Rubber from this port some 8000 tons already, and will doubtless still further increase our trade.

As to depression of business: It is true that in consequence of the rise in the exchange value of the milreis, and consequent depression in the price of Rubber, added to the enormous amount of credit business carried on in the country, a good many firms have become bankrupt, and many more are tottering. The failure of Marques Braga & Co., of Pará, who did a big banking business on the upper Amazon, also depressed still further the conditions of business. The law of October 16, 1901, promulgated at Manáos, did something to

restore confidence, but the small-pox on the Juruá and a spur of energy on the part of the police, who arrested some twenty of the biggest Rubber cutters—men each with 200 or 300 *seringueiros* in their employ—for murder, somewhat upset the wholesale houses in Manáos. As a protective measure, they stopped all credit business, with the inevitable consequence that half the rubber paths are unworked, and seem likely to remain so. Rubber gathering has not only been curtailed, but absolutely paralyzed in some parts, as, for instance, on the Autaz, Pauinhy, and Caquetá, each of which had some 2000 Rubber gatherers at work two years ago, while during the present season all three rivers could not muster a hundred. Just now there is little doing, as the rubber season is practically over for the upper Amazon.

As to exhaustion, Cacho is done for, as far as the upper Amazon is concerned, and there is very little left in Bolivia or in Peru. There still exist, however, immense tracts of Cacho-bearing land in Colombia, Ecuador, and Venezuela, and in Matto Grosso (Brazil). Rubber, too, is gradually being exhausted, and in my opinion, unless serious steps are taken by the government to protect the Rubber trees, in another twenty years it will be all over with the Rubber industry in Amazonas.

You may expect to hear shortly of considerable tracts of rubber producing country in Colombia being opened up. I refer to the Putumayo or Iça river district, which has a potential of 1300 tons of Rubber per annum, not counting Cacho or Balata, in the parts already explored, although in consequence of international squabbling it is not yet opened out. Then there are enormous tracts of Rubber on the Alto Maraoní, which, however, will not be of commercial importance for many years, on account of the indians.

Apropos of a note in the January 1 issue, of THE INDIA RUBBER WORLD, headed "Is There Balata in Brazil?" perhaps it would interest you to know that on the rio Patro, one of the affluents of the Alto Maraoní, in Peru, there exist enormous tracts of Balata, practically virgin. This I know from experience, having commanded a primitive expedition against the Uambizi indians, in those regions, in 1898. I brought down some of the Balata gum, and also some of the leaves, etc. The rubber brokers at Manáos and Iquitos wouldn't look at it, so I sent it to Antwerp to a friend who sold it (some 200 kilograms) at, I think, 4 francs per kilo. The leaves I sent to Professor Goeldi, of Pará, who identified it with the *Mimusops balata*, of which there is, I believe, a specimen in the botanical garden at Pará. I think, therefore, that it is very likely to exist on the Pará-Bragança railway, as the rule here is that if you find a plant in one part of the country, you will find it in all.

In connection with the letter of Mr. A. J. Scott in THE INDIA RUBBER WORLD for January [page 118], it may interest you to know that by a certain process much in use in Bolivia and Peru, it is possible to obtain from two to three arrobas (of 25 pounds) of Cacho from each tree. Therefore it is not impossible that an especially large and old tree should yield 100 pounds.

LYONEL GARNIER.

Manáos, Brazil, February 9, 1902.

DR. HUBER ON THE YIELD OF CAUCHO.

WRITING on Cacho, Dr. Jacques Huber, chief of the botanical section of the Pará museum, in the *Boletim* of that institution, says [Vol. III., No. 1. February, 1900—page 84], after describing the receptacles in which the *latex* is collected, when the trees are cut down:

"A grown-up tree yields as a rule one such vessel full of *latex*, which contains 14 gallons, or 56 liters. This quantity corresponds with 20 kilograms of Cacho in slabs (*planchas*), and as one slab weighs generally about 4 arrobas (=60 kilos,

or one man's load), it takes three trees to make one slab. But there are trees of exceptional size, furnishing much more *latex*. I have heard from one *Cauchero* worthy of confidence, that one of his workmen came back some day from an excursion in the woods saying he had discovered the *madre del cacho* (the mother of Cacho). It was a Rubber tree of extraordinary dimensions which the superstitious native did not dare to tap, because it seemed the 'mother of Cacho.' Finally, when a group of laborers set to work at it, said tree did not yield less than 7 arrobas, which is 105 kilos [=231 pounds] of Cacho."

BALATA TRADE IN EUROPE.

THE recent trial of a suit, at Glasgow, Scotland, over a disputed contract for the delivery of Balata, elicited some details of interest respecting the Balata trade. The plaintiffs, F. R. Muller & Co., stated that they had been dealing in Balata for eight years, during which time they had purchased upwards of £150,000 worth from the defendants, Weber & Schaer, of Hamburg. The contract in dispute covered 140 tons, for delivery between July, 1899, and April, 1900, amounting to £21,812 18s. Plaintiffs supplied R. & J. Dick, India-rubber manufacturers of Glasgow, with the Balata used in the belting manufactured by the latter, though they stated that they had other customers for Balata. A member of the defendant firm testified that the Messrs. Dick used more Balata than all the other firms in Great Britain. A representative of the Messrs. Dick testified that they also made purchases through London brokers, besides buying from Muller & Co.

There are three principal importers of Balata at Hamburg, where there are arrivals twice a month. There are four leading brokers in Balata in London, in whose hands the material is placed as received by various importers. There are occasional sales at auction. There is also a market for Balata in Amsterdam. The principal production is in Venezuela, the output going by steamers calling at Southampton, London, Amsterdam, and Hamburg; it is in the option of the importer to land his goods at any one of these ports, according as the market appears more favorable at one or another. Mr. Weber, of the defendants, testified that the Balata business was largely speculative; there is not a free market for the article; the attempt to purchase, say 45 tons, in the open market would at times set up prices very much and at times not at all, according to the size of stocks held. Another witness stated that the bulk of the business was done before the Balata arrived.

A member of Price, Hickman & Co. (London brokers) testified that probably 1000 tons of Balata came to London yearly. The limitation of the production made it liable to considerable fluctuation. During twenty years the range of prices had been from 1s. 2d. to 2s. 6d. per pound. There had been an advance from 1s. 5d. in August, 1899, to 1s. 9d. in February, 1900. In August of that year 2s. 1½d. was reached, with a fall to 1s. 8d. in October. The price in Continental ports was usually ¾d. higher. A member of Henry Kiver & Co. (London) had known of sales as high as 2s. 8d. The judicious way to buy, he said, was in small lots, since the price would naturally go up when the market came to know of a large quantity being wanted.

F. R. Muller, Jr., London manager for the plaintiff firm, said that the rise in Balata between 1899 and 1900 was due to scarcity of the article. He said that a market for Balata always existed in London; there was at least one transaction carried through every week, apart from private transactions.

A shrinkage of about 4 per cent. during shipment from Venezuela was mentioned. The usual brokerage commission in London is 1 per cent. and occasionally ½ per cent.

THE EUREKA FIRE HOSE CO.'S FACTORY.

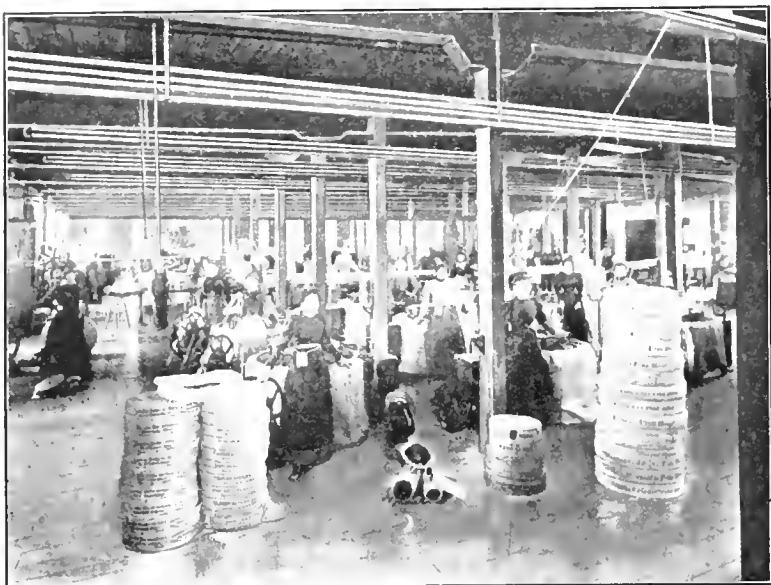
ONE of the most interesting and complete factory plants in the rubber business is that of the Eureka Fire Hose Co. (Jersey City, New Jersey), the building having been erected after the most approved insurance plans, in 1892. The plant has a floor space of more than 100,000 square feet, or about 2½ acres. It is of heavy timber construction

product is reached. The yarns are received in the single and twisted into various plies in the twisting department. They are then treated antiseptically by a process which allows of no sizings, or weightings of any kind, such as are sometimes used for increasing the strength or weight of yarn. After the twisting comes the weaving, and of the variety of looms employed

there are a great number, running into hundreds, each being specially designed for the work it is to do. Each loom has its own individual operator—always an expert in that particular line. After the weaving comes the most rigid inspection, every inch of the hose being carefully tested, and the slightest fault causing rejection. The next process is that of mildew proofing, from antiseptic formulas, originally prepared by one of the most expert of New York chemists, and afterward revised by the company as experience dictated. As an indication of the importance which the manufacturers place upon this treatment, it may be stated that an area of 20,000 square feet of floor space is devoted entirely to this work.

Next the hose is carried to the lining department for the insertion of the rubber linings. This rubber lining is always of the best quality Pará rubber tubing, three calendered, and lap jointed. It is a matter of pride with the manufacturers that this one quality of rubber has been used for a quarter of a century, and has given universal satisfaction. Any one familiar with the manufacture of rubber goods will understand that by the term "three calendered" is meant that the sheet is run three times through the calender, and

is really three plies of rubber forced by the calender into an integral impervious sheet. This sheet is then cut into the widths required to make the tubes. The edges are next lapped and carefully cemented together, and the lap joint vulcanized into position. The tube on its removal from the vulcanizer is coated with rubber cement and drawn into the fabric by special machinery.

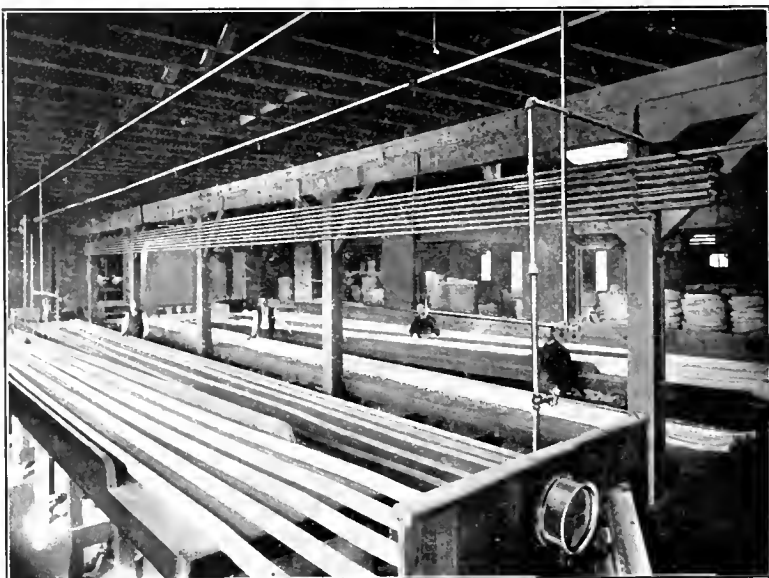


HOSE WEAVING DEPARTMENT.

and provided with fire walls, standard insurance shutters, automatic fire resisting doors, wired glass windows, automatic fire pumps, automatic sprinklers, electric fire alarm bells, and an abundant supply of water—in fact with all of the most approved fire fighting appliances in the world. Further than this, the equipment includes an electric lighting and power plant, exterior and interior telephone system, an overhead vacuum steam heating system, safety appliances for the immediate stopping of machinery, and practically every modern appliance that convenience or economy can suggest.

It is of interest to note that all the weaving and other special machinery used was invented by members of the company's staff, and built in their own machine shop. All of the cotton and linen yarns used are specially spun to meet the very rigid requirements of the company's specifications, and, when received from the contract factories, are carefully examined and tested by the most accurate of testing appliances. The strength of the cotton yarns, for example, for "Eureka" goods, is more than 13 per cent. higher than the well known Draper standard. The rubber used in the hose lining is prepared in a factory close at hand which was specially designed and built for this work, and is delivered under strict guarantees as to quality and durability, and is not accepted until examined and tested to show if it be in perfect accord with the specifications.

In visiting the Eureka factory, it is interesting to follow the handling of the raw material and the various processes through which it goes until the finished



RUBBER LINING DEPARTMENT.

The next process is the vulcanization of the tube within the fabric. To accomplish this each section of hose is fastened to a steam head at one end and an exhaust head at the other. Live steam is then slowly turned into the hose, inflating the rubber lining against the interior surface of the fabric. The steam heat at first softens the cement and then vulcanizes it and the tube against the interior wall of the fabric. This process being completed, the hose goes to cooling tables, where it lies for twenty-four hours and is then coiled ready for coupling. The couplings, which are made to the most rigid specifications, are applied by a novel hydraulic expander, after which

of this sort of construction is that the different plies, being woven simultaneously, are perfectly uniform in tension and construction throughout, nor is there opportunity for the collection of dirt or dampness between the plies.

The Eureka company are not only sticklers for perfect workmanship, but they have always held that light weight hose linings, provided of course the stock be good, are far more serviceable than are the thick linings so often put upon the market. They make no secret of their belief that the linings should not be less than eighteen gage nor more than fifteen gage, and indeed this experience is endorsed by the navy department of the United States and by the factory fire insurance associations. Nor have the company ever allowed any so called rubber substitutes to enter into any of their linings.

That the Eureka company have made a marvelous record, is proved by the fact that they have received a gold medal from every exposition where their goods have ever been shown, while at one Paris exposition Mr. J. Van D. Reed, then president, was awarded the cross of the Legion of Honor.

The Eureka Fire Hose Co. was established in 1875 prior to which date Mr. J. Van Dussen Reed, its late president, and Mr. B. L. Stowe, now vice president, had been connected with the operation of circular looms. Mr. Reed's attention had been called to the desirability of producing a better fire hose than was then known, and he and Mr. Stowe experimented in the direction of making a seamless, circular solid woven, multiple ply hose, on circular looms. Their success was such as to warrant the organization of a company to make the new style of hose, protected, as were the machines used, by patents. The company's first factory was in New York; in 1882 they removed to larger quarters in Brooklyn; and in 1892 the entire

plant was moved to the present location. With the first section of the circular woven hose, as a sample, a good order was obtained from the New York fire department, and it has continued to prove so satisfactory that, prior to January 1, 1901, there had been sold to thirty principal fire departments in the United States 1,693,570 feet of the company's two leading brands.

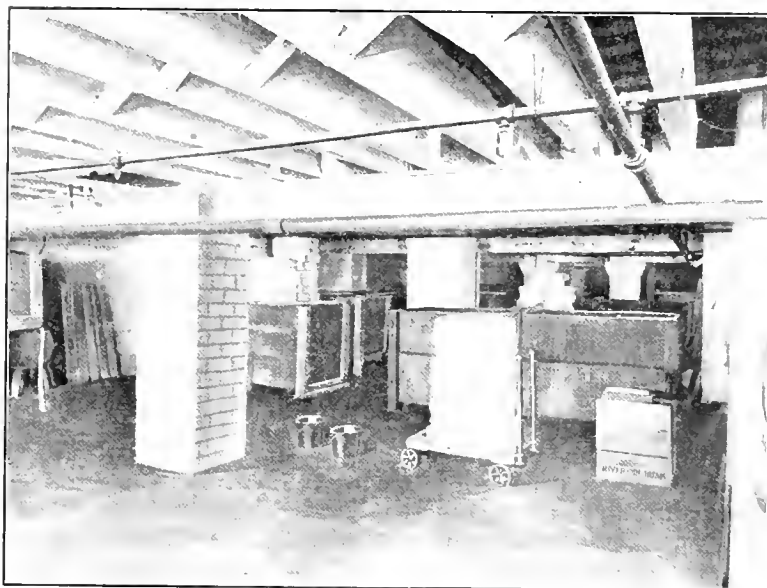


MILDEWING DEPARTMENT—DRY ROOM.

the hose goes to another testing department, where each length of fire or underwriter hose is subjected to a hydrostatic pressure of 200 pounds to the square inch.

This very brief résumé of the processes used does not by any means give a full idea of many points of interest and of novelty that appeal to one in going through this factory, for the care that is taken to guard against defective goods seems never ending. For example, the rubber strips that are to be used in the manufacture of hose linings are carefully examined, brushed, and prepared, so that they may be perfectly free from soapstone, dust, or any material that might in any way cause a pinhole in the rubber surface. Then, too, the hose is always stencilled before the tube is vulcanized into the fabric, as it has been found that the steam heat assists in the setting of the brands. The manufacturers are also exceedingly careful to mark each length of hose with the date of its manufacture, which is done by inserting colored threads between the fabric and the lining.

One of the most interesting of the many products is the single woven multiple cotton fabric fire hose. This is made in either two or three plies, the former being called the "Paragon" and the latter the "Eureka." Speaking of the latter, for example, although it is a three ply fabric, each fabric having its individual series of warp and weft threads, the three plies are also bound together into a solid homogeneous fabric, by a series of binder or warp threads which run through all of its plies. The loom on which this is woven is a marvel of ingenuity, and the advantage



MILDEWING DEPARTMENT—VAT ROOM.

THE IDEAL PRESS ROOM FOR SMALL MOLD WORK.

By a Former Superintendent.

IT is remarkable, yet true, that a number of our large rubber manufacturers look upon mold work, as it is commonly termed, as only a necessary evil, to be tolerated only because it brings to them other and more desirable work. The result is that the Mold room or Press room is often hidden in some out of the way corner, and little if any care is taken of it, in which circumstances it easily justifies their opinion. The superintendent, however, who is up to date and interested in mechanical construction, soon finds it not only one of the most interesting, but, when properly conducted, one of the most profitable of all rubber departments. Arranged with system, and given ample working space for the men employed, so that the goods may be kept clean, the mold room will soon return profits for all the care given to it.

The most desirable way to fit up the room is to arrange the presses on three sides of a square, placing in the center the benches running parallel with the two sides of presses. At the head of the benches nearest to the entrance to the mill room should be placed racks for holding the various grades of stock, in rolls. The stock should be run between sheeting, on shells and not chalked, as this will greatly facilitate the operator in drawing out on the bench preparatory to building up the required thickness or cutting into desired shapes.

Where a great variety of work having a varying range of, thickness is constantly being made, the four-plate press, 24 inches square, is the most satisfactory, but some larger presses will be found necessary to complete the room. It is also very convenient to have a few small upright steam vulcanizers about 30 inches deep by 18 inches diameter, so arranged that they can be used to relieve the presses from long heats. For example, hard valves for steam purposes may be partly cured in the press and finished in the vulcanizer, or, where it is necessary to shrink stock by boiling, these small vulcanizers will be found extremely useful.

It will be obvious to any one with mechanical knowledge that the only satisfactory way to operate the presses is by an accumulator of sufficient size to insure the desired pressure and quick manipulation. Some fit the main feed pipe with a reducing valve, set to the desired pressure, thus saving the expense of thermometers for each press, and gage the cure of different compounds by time alone.

Two machines that play an important part in a press room are a disc cutter, for cutting valves, diaphragms, and the like, and a tubing machine, which can be used for making the first form of a large variety of shapes. Two very desirable articles of manufacture—billiard cushions and deckle straps—can be arranged for by fastening to a bench a steam chest of the desired length and width, having fastened to it a section of the desired mold, with the corresponding section placed directly above it and hung with balance weights so that it may be easily lowered into place. These two sections can be securely fastened by bolts, or preferably by knuckle joint levers. These plates will be found very sensitive to heat and cold, and care should be exercised in heating and cooling before and after vulcanization. As the designs in mold work change so often, one will be constantly busy inventing small tools to facilitate the work, and the value of the head of this department depends upon his ability to meet these constant changes.

One of the most important points to be remembered in the

press room is that cleanliness is profitable. All of the presses, the tables, and the tools should be kept clean and, in fact, so should the men. Molds should be inspected often, and when they gather a sulphur, soap, or talc crust, should be at once cleansed. This question of easily and quickly cleaning molds has long been a serious problem with rubber men. Some have skin coated the inner surface of certain molds with block tin, and when it grew foul, have melted it out and retinned it; others have invented liquids that were said to take out the scale without injury to the metal. Perhaps, after all, the best and cheapest method is the use of the sand blast. A smooth talc like sand will do the trick, and it is no job at all to arrange a box for this work that will protect the workman, and at the same time collect the sand for further use.

Of course money is saved by exercising care in fitting the rubber parts so that they fit perfectly, in excluding all air, in cooling down for stocks that will puff, and in remembering that cloth insertions are liable to burn. A thousand suggestions could be made to fit any one line of mold work and a thousand other for another line, and it is just this condition that makes mold work both fascinating and profitable for the right man.

WATERPROOF CLOTH FROM INDIA.

THERE has been manufactured in India, from time immemorial, a cotton fabric known as Afridi-wax cloth, by a process the secret of which is just beginning to be understood outside of the workshops where it is produced. This fabric, often embossed in colors, is in great demand for the wearing apparel of the native women, though too heavy for European tastes. But in a report by the United States consul at Bombay, Mr. William Thomas Fee, it is suggested that the Afridi cloth possesses value as a waterproof material, as a lubricant for leather, and as a powerful cement for glass and stone ware. The fabric is treated with oil from the seeds of the wild safflower (known to botanists as *Carthamus oxyacantha*), which thrives in the arid regions of northern India. Specimens of Afridi cloth, for costumes and curtains, have been received by the bureau of foreign commerce, in the department of state, at Washington.

AMERICAN SAFES IN PARA.

REFERRING to the recent fire in the rubber establishment of Frank da Costa & Co. at Pará, mentioned in the last INDIA RUBBER WORLD, the United States consul at Pará, Mr. K. K. Kenneday, says in an official report that there were six safes in the offices of the company, including two of American make. The contents of these two were found to be uninjured, whereas the books, money, etc., in the other safes were destroyed. In one of the latter safes was Brazilian currency equal in amount to about \$175,000, of which Consul Kenneday writes: "There is little hope of recovering anything of the money thus damaged by fire and water." The consul says that there were 43 tons of rubber in the building, of which 28 tons were destroyed and 15 tons damaged.—The *Brazilian Review* reports the sale of 18 tons of sernamby rubber from the da Costa establishment for account of one of the insurance companies.

DEATHS IN THE RUBBER TRADE.

JOHN AUGUSTUS CHURCHILL.

JOHN A. CHURCHILL, a former prominent dry goods merchant of New York city, died on February 19, at the Langham Hotel, in Fifth avenue, after an illness of about four years' duration. Mr. Churchill was intimately associated with the rubber goods business of the country, dealing largely in fabrics for mackintoshes and waterproof cloth. He was born at Cornwall-on-Hudson, New York, in 1844, being the youngest of a family of nine children. He came to New York city at the age of twelve, and was for many years connected with the well known firm of E. S. Jaffray & Co. In 1877 the firm of Smith, Churchill & Scribner was formed, with Mr. Churchill as the



JOHN A. CHURCHILL.

active partner, to do a general import and domestic business in linens. This firm afterward became Smith & Churchill, and still later J. Galt Smith & Co. Upon the death of Mr. Smith, a few years ago, Mr. Churchill retired from business.

In 1897 Mr. Churchill was stricken with a severe illness. He spent a winter in Cairo, Egypt, and

returned to America, but as his health was still impaired, he was obliged to again seek the milder climate of Egypt and continental Europe. He returned home in August last, but was still confined to the house and latterly to his bed. Mr. Churchill left a widow, a son, and a daughter—George A. H. Churchill, vice president of The Gloucester Manufacturing Co., of New Jersey, and Mrs. Harold H. J. Baring, who resides at High Beech, Loughton, Essex county, England. Mr. Churchill had spent most of the past three summers with Mrs. Baring in England.

At the funeral the pallbearers were: L. C. Ivory, of the Chicago, Rock Island and Pacific railroad, New York; Hon. Lewis D. Apsley, Hudson, Mass.; George B. Hodgman, New York; James Kipp, New York [the three latter being members of the rubber trade]; Colonel James M. Moore, U. S. army, retired; James Boyd Wier, New York; Henry M. Harley, Gloucester, N. J.; and Henry M. Shoemaker, of the Cincinnati, Hamilton and Dayton railroad, New York.

Mr. Churchill had a rare faculty for making friends among the leaders in the trade that almost amounted to genius. Personally he was an unusually fine looking man, of courtly address, and one who bore evidence in every way of being a finished man of the world. In all his business relations his attitude was that of a trusted friend, or an adviser to look after the interests of his client in special lines, rather than one who was a merchant marketing a specific product. He will long be remembered as one whose visits were always welcome, and although his illness kept him out of active business for a number of years, he was by no means forgotten by the trade which knew him best.

JAMES DICK.

JAMES DICK, surviving partner of R. & J. Dick, of the Greenhead rubber works, Glasgow, Scotland, died at his home in that city on March 7. In 1846, the brothers Robert and James Dick, being unemployed, bought a pound of Gutta-percha shoe soles (then a new article in the trade) and a 3 shilling can of solution, with a card of instructions for soling shoes. The same day, though not shoemakers, they heeled and soled with the Gutta-percha three pairs of shoes, and did it so well that they were led to open a shop for the sale of shoe soles and other articles made by the Gutta-percha company. Before the end of the year they started, on a small scale, making leather shoes with Gutta-percha bottoms. They were favored by the cheapness of Gutta-percha—at times not above 9d per pound—and were able to produce shoes at a cost of 4s 6d, which working people bought at 5s the pair, and in time built up a large trade, extending to goods of better grades. Their shoe trade has since continued, and a few years ago it was stated that, for a quarter of a century, the output had averaged 20,000 pairs per week, of boots and shoes for men and women. The firm became prosperous, and in 1865 James Dick purchased Cathkin Braes and presented the park to the citizens of Glasgow, as a souvenir of his marriage with Miss Macdonald.

Subsequently Mr. Dick traveled extensively, retiring from the business, which was carried on single-handed, for six years by his brother Robert. It was the latter who was responsible largely for the successful introduction of a patented Gutta-percha, canvas, and Balata belting, which has come into such wide use. Robert Dick died in August, 1891, leaving a personal estate appraised at Glasgow at £268,582 [= \$1,342,910]. The business reverted to James, who has stated that the question confronted him whether he should return to business, or bring the old firm to a close. Taking into consideration the large number of persons more or less dependent upon the business, he decided that it was his duty to take on the yoke once more, and he remained in charge of the business until his death.

At the celebration of the semi-centennial jubilee of the Dick firm in 1898, the lord provost of Glasgow remarked that few men having the wealth of James Dick were willing to devote themselves so thoroughly as he had done for the benefit of the community. He was never appealed to in vain for objects of charity or public benefit, though he insisted that his name should not be published as a donor to them. He had then lately presented a public library and museum to Kilmarnock. It was stated that between 800 and 900 employes were at work in the Greenhead factory, and that £2,000,000 in wages had been disbursed during 50 years. At the jubilee the employes presented to Mr. Dick an address in a gold casket, and to Mrs. Dick a jeweled bracelet.

Mr. Dick bequeathed a liberal sum for distribution among his late employes, and £100,000 to various Glasgow charities.

K. T. B. SPADER.

KROSEN TEN BROECK SPADER died at New Brunswick, New Jersey, on February 9. He was born near Readington, in that state, October 18, 1822, and was graduated from Rutgers College in 1845. He was engaged in teaching and connected with various mercantile houses, until March, 1853, when he was elected secretary of the New Brunswick Rubber Co., which position he held until January 15, 1893—or within a few weeks of forty years—when he retired from active business life. This was at the time that the factory came under control of the United States Rubber Co. Mr. Spader was during this long period in full charge of the financial affairs of the company, enjoying the

fullest confidence of the directors. He lived to see the capital of the company increased from \$100,000 to \$300,000, made from the profits of the factory, in addition to paying dividends of 5 to 50 per cent. a year. Besides his connection with the rubber company, Mr. Spader at various times served as superintendent of public schools for North Brunswick township, alderman in New Brunswick, and water commissioner, and from 1862 to 1872 he was United States commissioner of internal revenue for Middlesex county. In April, 1862, he was commissioned by the governor of New Jersey as major of the third regiment, Middlesex brigade, New Jersey militia. Mr. Spader was a deacon in the First Reformed church at New Brunswick. On April 4, 1855, he was married to Miss Mary E. Franken, of New York, who survives, with one son, William V. Spader, of New Brunswick.

ROBERT C. HELM.

ROBERT C. HELM died March 15, at New Brunswick, New Jersey, where he had lived since 1840, at the age of 77. His first employment was in an iron foundry on premises in that town owned by Horace H. Day. At the age of 17 he began work in Day's rubber factory, continuing three years. He next entered the retail shoe trade. Beginning in 1861 he worked in a rubber factory owned by William Judson, and of which John Murphy was superintendent. Many army blankets were made there during the civil war. In 1865-66 Mr. Murphy, in connection with Timothy Cornwall and Dexter Bennett carried on the manufacture of elastic goods. The business then took the name Manhattan Rubber Co. and embraced a general line of rubber goods, coming to an end in 1867. Mr. Helm, who had remained with Mr. Murphy, then worked with the Eureka Rubber Co., who tried to make white hard rubber, and later, for a year, with Prentiss & Heath (Newark), in the rubber carriage cloth trade. John Murphy was by that time superintendent of the Gutta Percha and Rubber Manufacturing Co., then located in West Twenty-fifth street, New York, where Robert Helm secured employment on March 9, 1874. The works were burned the same year, and the present factory, in Brooklyn, was opened in April, 1875, where Mr. Helm was in charge of the calender room, and in other ways assisting the superintendent, until his voluntary retirement in the fall of 1897. He owned his home in New Brunswick, where he took an active interest in the welfare of the community. He was an alderman for two years, in one of which he served as president of the board; was at one time foreman of a local fire company and later chief of the fire department; was sometime captain of the Morgan Rifles—a local militia company then the pride of the town; and was a charter member of Palestine lodge, F. and A. M. He was buried with Masonic honors on March 17. Mr. Helm lost his wife about eight years ago and is survived by three sons and two daughters.

* * *

JOHN STEARNS, father of Edgar G. Stearns, of E. G. Stearns, rubber shoe jobbers in Chicago, died at his home in that city, on March 3, after having suffered a stroke of paralysis. He settled in Chicago in 1864, having been born in New York state nearly 80 years ago. Before the Chicago fire Mr. Stearns had one of the largest planing mills in the West. Later he engaged in the coal trade, retiring about ten years ago, since which time he had made his home with his son.

THE Candee Rubber Co. will soon issue to the shoe trade a very convenient little pamphlet showing the different widths, sizes, and toes in which their various goods are made, and giving also the packing scale. The book will be illustrated with cuts showing all the different styles of toes made by the company.

EXPORTS OF AMERICAN RUBBER GOODS.

DURING the first seven months of the current fiscal year compared with the three years preceding, as officially reported by the customs service:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-December January, 1902.	\$308,011 47,498	\$773,751 60,183	\$823,545 116,815	\$1,905,310 224,496
Total	\$355,509	\$833,934	\$940,363	\$2,129,806
1900 01	304,762	587,687	903,749	1,856,189
1899 00	319,296	253,861	748,242	1,321,309
1898 99	(a)	175,176	795,751	970,927

(a) Included in "All Other" prior to July 1, 1899.

[Exports to Hawaii and Porto Rico not included.]

Exports of boots and shoes amounted to 2,159,757 pairs, against 1,212,297 pairs in the seven months ending January 31, 1901, and 487,531 pairs in the corresponding of the year before that.

CANADIAN RUBBER IMPORTS.

[For Six Months Ending December 31—Officially Stated.]

	1900.	1901.
<i>Crude:</i>		
From United States.....	\$1,290,328	\$835,483
From Great Britain.....	78	4,773
From other countries.....	9,012	12,418
Total.....	\$1,299,631	\$852,674
<i>Manufactured:</i>		
From United States.....	\$196,382	\$289,597
From Great Britain.....	58,246	93,185
From other countries.....	7,870	9,012
Total.....	\$262,498	\$391,794

JAPANESE IMPORTS OF CAOUTCHOUC WARES.

[By Calendar Years. Compiled from Official Reports. Values Stated in Yen.]

FROM—	1900.	1899.	1898.
Austria.....	7,818	175	....
Belgium.....	26,163	10,692	11,697
France.....	34,158	26,393	19,584
Germany.....	172,254	86,684	122,060
Great Britain.....	75,983	62,575	87,915
Holland.....	....	1,179	....
Italy.....	1,516	425	8,115
United States.....	14,453	14,252	29,543
Other countries.....	479	204	1,037
Total.....	332,859	204,581	279,954

[The present value of the Yen is 49.8 cents.]

AMERICAN RUBBER GOODS EXPORTS TO JAPAN.

[By Fiscal Years ending June 30; officially stated. The Classification of Rubber Goods Differs from that current in Japan.]

YEARS.	Value.	YEARS.	Value.	YEARS.	Value.
1893.....	\$27,984	1896.....	\$37,833	1899.....	\$57,579
1894.....	12,699	1897.....	42,000	1900.....	83,060
1895.....	19,441	1898.....	68,440	1901.....	94,750

AUSTRO-HUNGARIAN RUBBER FOOTWEAR TRADE.

[Official Statement. Weights in Kilograms.]

	1900.	1901.
Imports	264,800	491,500
Exports	200,400	711,200
Imports during 1901 included: Russia, 160,200 kilos; Germany 7500; Great Britain, 6900; United States, 9400.		
Exports included: Germany 141,400 kilos; Great Britain, 87,200.		

ITALIAN IMPORTS OF RUBBER GOODS.

[Officially Stated. Weights in Kilograms.]

FROM—	1897.	1898.	1899.	1900.	1901.
Germany.....	153,200	126,000	123,700	126,900	156,300
France.....	41,000	49,800	56,800	73,400	63,500
Great Britain..	43,800	32,200	35,700	43,300	40,400
Switzerland...	20,600	20,200	18,200	18,700	16,500
Other countries	33,500	41,900	47,100	46,900	57,100
Total.....	292,100	270,100	281,500	309,200	333,800

NEW GOODS AND SPECIALTIES IN RUBBER.

MOTORMEN'S ARCTICS.

AN exceedingly serviceable and popular shoe is the Motor-man's arctic, shown in the accompanying illustration. It is made to be worn with socks and in one width only. It is a high laced overshoe, especially adapted for use of men standing in exposed places. It will be noticed that the rolled edge is so built that it protects the toe from constant wear against the front of the car. The shoe is provided with a leather insole and made in rights and lefts. It is also becoming quite popular as a hunting and fishing shoe. [Hood Rubber Co., Boston.]



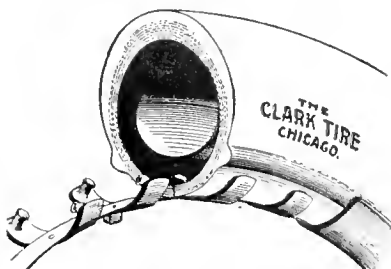
THE "REX" RUBBER HEEL.

THE manufacturers of this heel point out, not only the advantages of a cushioned heel to the wearer, particularly to sufferers from nervous troubles, but also the desirability of noiseless heels in hospitals, sick rooms, and many other places. The "Rex" heels have no holes to gather mud, while the suction cup design prevents slipping. The manufacturers advise THE INDIA RUBBER WORLD that their heels have met a large sale, owing to the combination of a durable quality with a comparatively low price. [American Rubber Heel Co., No. 200 Lake street, Chicago.]

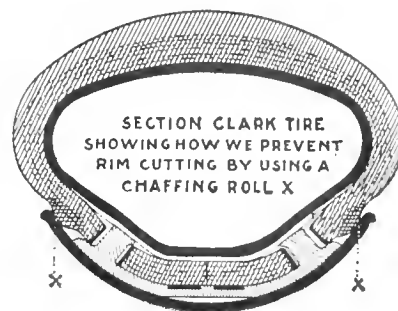


THE CLARK DETACHABLE TIRE.

THIS new vehicle tire is composed of a strut band, casing, and inner tube. The strut band is composed of a strip of metal to which are attached a number of struts, so spaced and arranged that when placed on the rim, five of the struts, which contain lugs, will engage an equal number of openings in the steel rim. The details of construction are such as to make the Clark tire adaptable to any rim. To apply the tire, the strut band is first placed in the rim. One edge of the casing is then attached, by means of eyelets, to the strut band; the inner tube is then placed in position, after the valve stem has been inserted properly in the opening in the rim;

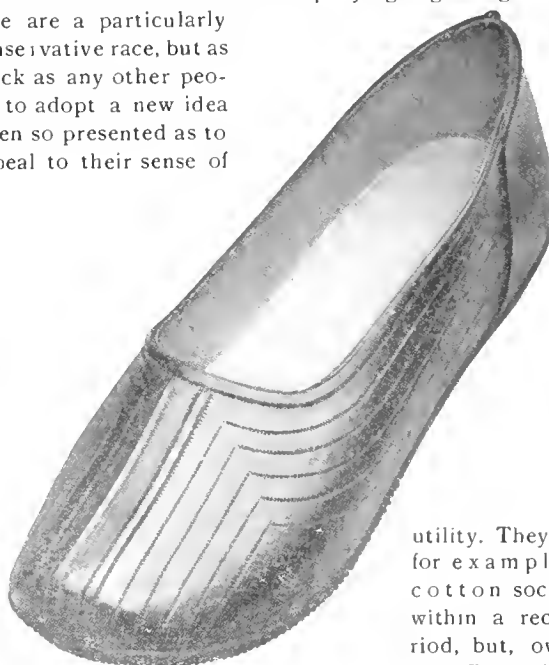


and the other side of the casing is brought over and similarly fastened in place by means of a row of eyelets. Upon each side of the casing is a chafing roll, of pure rubber—indicated in one of the illustrations herewith—so placed as to lie directly upon the rim edges, in order to prevent the rim from coming in contact with the casing proper. This latter feature is one to be appreciated by persons who have had much experience with pneumatic tires. The casing is molded in oval form—see section cut—giving to it a compressed tread when inflated. By this means cuts or punctures on the tread are immediately closed, and while the Clark tire is not claimed to be puncture proof, yet the compression will, in a great measure, obviate the liability of punctures. These tires have been exhibited at the recent automobile shows, after having been thoroughly tested in practice for several months. They are offered in sizes large enough for any vehicle. [The Clark Tire Co., Lakeside building, Chicago.]



RUBBER SHOES FOR THE CHINESE TRADE.

FOR a good many years one or two British firms have manufactured rubber footwear, shaped to correspond with the shoes worn in China, but up to date little has been done in the United States toward building up a trade in this class of goods. The Apsley Rubber Co. (Hudson, Massachusetts) have, however, lately made up some shoes for the Chinese market, a sample of which is illustrated in the accompanying engraving. The Chinese are a particularly conservative race, but as quick as any other people to adopt a new idea when so presented as to appeal to their sense of



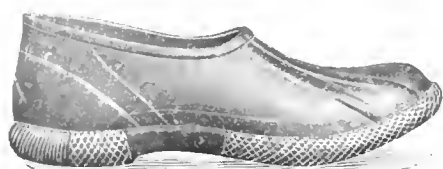
utility. They did not, for example, wear cotton socks until within a recent period, but, owing to the efforts of English

merchants, these articles have been introduced in the seaport cities of China, with such success that some large English mills are now devoted to the production of cotton socks for Chinese wear alone. An American consular report quoted in the last

INDIA RUBBER WORLD intimates that similar success may be attained in the matter of rubber shoes, in certain parts of China.

THE WALES-GOODYEAR "OSHKOSH."

A NEW type of shoe that is made for the northwest trade, in the lumber camps, and which is proving very popular, is the "Oshkosh." It is very similar to a shoe made by the same company, known as the "Utah," except that the roll follows the shank and is extra heavy. Another minor difference is that the "Oshkosh" is fitted with a felt inner sole. [United States Rubber Co.]



SOFT RUBBER HEELS WITH HARD RUBBER FINISH.

THIS description relates to a newly patented article, which is just being introduced to the trade. It is made of soft rubber, surrounded by a casing of hard rubber. The rubber used for the interior and bottom of the heel is treated in the manufacture with a view to the prevention of jarring and slipping in walking. The hard rubber exterior prevents the soft rubber from spreading and losing its shape, or wearing out on the edges, and thus becoming shabby in appearance. The hard rubber is also capable of taking on a rich and permanent finish, to correspond with the polish on the leather shoe. A further claim made for this heel is that it is not entirely noiseless, and therefore does not give the wearer any sensation of sneaking. The manufacturers state that, in the production of this heel, they have been more successful than any one else in the combination and vulcanization together of soft and hard rubber. The inventor is Charles M. Berry. [The Berry & Hardman Co., Belleville, New Jersey.]

RUBBER NOVELTIES FROM GERMANY.

SOME exceedingly attractive toys have lately been put on the market by George Borgfeldt & Co. (New York), the toys being of German manufacture. There are, for example, one set of three grotesque figures that are known as the boxer, the negro, and the devil. They are made of colored rubber; the negro, for example, wearing a white collar, and having the faculty when squeezed of projecting from three orifices in his head a tongue and two gigantic horns. Another novelty is a bottle stopper with a rubber top, in the form of a grotesque rubber head in red, ornamented with a black tongue and black ears. The goods are evidently having a large sale.

A GOOD THING TO LET ALONE.

WHETHER or not to pay \$300,000 for a concession of rubber lands in one of the South American republics is a problem in regard to which a reader of THE INDIA RUBBER WORLD asks for advice. It is a good thing to let alone. The governments of those countries don't sell rubber concessions; they practically give them away, to encourage settlement and development. The concession in point probably cost its present holder nothing, and he is seeking to profit largely by its sale. Our correspondent could get another concession, doubtless quite as good, without paying anything. A man going into the rubber business in the tropics will have enough to do to earn dividends on his investment of working and trading capital, without having also to earn interest on \$300,000 paid as a gratuity to a *concessionaire* who has done nothing to earn it.

RUBBER GOODS FOR TURKEY.

THE imports of rubber goloshes into Turkey—mainly from Russia, England, and Germany, and latterly from the United States—are estimated in value by the *Gummi-Zeitung*, at 1,150,000 marks [= \$273,700] a year. Mackintoshes and other waterproof wearing apparel are in little demand. More demand exists for rubber sheets in dimensions of 3 meters long, 1 meter wide, and $\frac{1}{4}$ to 3 centimeters [$\frac{1}{16}$ to 1 inch] in thickness. The quality preferred is of a whitish color, and costs about 35 francs per kilogram [about 31 cents a pound]. A cheaper quality is black, and sold about one third lower. A quality selling at 8 to 12 francs per kilogram [= 70 cents to \$1.05 per pound] is in small demand. The demand for rubber tubing is fair, particularly for medium quality, greyish, suitable for gas tubing; also the same quality, with a reddish insertion, or with wire insertion. The prices are 3.50 to 4 francs per kilogram. Sales are made c. i. f., Constantinople, inclusive of packing. Payments are made in from 6 to 9 months from date of bill of lading, or at a discount of 5 per cent. for cash.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED FEBRUARY 4, 1902.

- NO. 692,305. Hoof pad. William J. Kent, Brooklyn, New York, assignor to Revere Rubber Co.
 692,311. Rubber tire. Alvaron S. Krotz, Springfield, Ohio, assignor to Consolidated Rubber Tire Co.
 692,325. Rubber tire. Charles A. Maynard, Springfield, Massachusetts.
 692,341. Wheel and tire for vehicles. George W. Pitt and Edward Martin, London, England.
 692,368. Pneumatic tire. Frederick J. Seddon, Manchester, England.
 692,446. Pneumatic tube protector. Naaman D. Hopkinson, Spokane, Washington.
 692,527. Apparatus for bringing the ends of rubber tires together. Frank W. Kinney and Raymond B. Price, Chicago, Illinois, assignor to Calumet Tire Rubber Co.
 692,628. Resilient tire for vehicles. Franz Clouth, Cologne-Nippes, Germany.
 692,703-692,704. Rubber glove. Jacob Pfeiffer, Jr., Akron, Ohio.

Design Patent.

- 35,654. Air cushion. Christian William Meinecke, Jersey City, New Jersey, assignor to Meinecke & Co., New York.

Trade Marks.

- 37,716. Rubber hose, belting and packing. Bowers Rubber Co., San Francisco, California. Essential feature—the word "Carabao."

ISSUED FEBRUARY 11, 1902.

- 692,980. Rubber tire. Clarence H. Bryan, Chicago, Illinois, assignor of one-half to James Webster, Chicago.
 693,151. Process of reclaiming rubber from vulcanized rubber waste. Raymond B. Price, Chicago, Illinois.

Trade Marks.

- 37,781. Waterproof fabric for roofing and belting. The Lincoln Waterproof Cloth Co., Boundbrook, New Jersey. Essential feature—a diamond shaped figure.

ISSUED FEBRUARY 18, 1902.

- 693,573. Elastic tread horseshoe. Martin J. Sinnott, Brooklyn, New York.
 693,661. Vehicle tire. John F. Lober, Pittsburgh, Pennsylvania.
 693,795. Respiratory apparatus. Erich Giersberg, Berlin, Germany, assignor to Sauerstoff Fabrik Berlin, G. m. b. H.
 693,818. Pneumatic tire. William F. Stearns, Cambridge, and William L. Haines, Boston, Massachusetts, assignors by mesne assignments to Punctnet Tire Co., Philadelphia.

Trade Marks.

- 37,834. Vehicle tires. New York Belting and Packing Co., Limited, New York. Essential feature—the words "Long Distance."

ISSUED FEBRUARY 25, 1902.

- 693,879. Apparatus for securing rubber tires to wheels. George Meyer, New York city.
- 693,942. Soft tread horseshoe. Henry D. Alexander and Henry C. White, Canton, Ohio.
- 693,996. Life saving suit. Hermann M. Brand, Porto Alegre, Brazil.
- 694,223. Elastic tire. William F. Williams, London, England.
- 694,839. Pneumatic horse collar. Charles S. Boehm, Hopkins, Minnesota.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1902.

26. Jean Paul Le Grand and Narcisse Cheneau, Manchester. Tires for vehicles. January 1.
41. Joseph Horatio Ritchie, Greenwich, London. Elastic tires. January 1.
55. Daniel Michel Weigel, Kensington, London. Pneumatic tires. January 1.
135. Edward Thomas Cheer, Upton Park, Essex. Pneumatic tires. January 2.
152. Philip Middleton Justice, 55, Chancery lane, London. Golf balls. [Cleland Davis, United States.] January 2.
160. Frank Mitchell, 23, Southampton buildings, Chancery lane, London. Pneumatic tires for cycles and vehicles. January 2.
203. Joseph Delemeschmig, Charlottenburg, Germany. Elastic band or belt. January 3.
205. Daniel Michael Weigel, 97, Long Acre, London. Pneumatic tire protector and its means of fixing. January 3.
359. George Cope Dixon, trading as the North London Rubber Co., 110, Clarence road, Clapton, London. Inner tubes of pneumatic tires. January 6.
373. Berne Nadall, 7, Staples Inn, London. Tires for vehicles. January 6.
377. Walter Clay Peters, 9, Regent street, London. Non puncturable pneumatic tire. January 6.
444. Raymond Beach Price, 45, Southampton buildings, Chancery lane, London. Rubber tires for vehicles. January 7.
453. Adolphus Henry Arzt, Birkbeck Bank Chambers, Southampton buildings, Chancery lane, London. Improvement in waterproofing. January 7.
557. Charles Terry, Alfred Ernest Terry, and Albert Victor Terry, Birmingham. Non extensible wires for pneumatic tire covers. January 8.
581. William Shone, 18, Buckingham street, Strand, London. Sealing of inflatable members of pneumatic tires. January 8.
649. Nathaniel Mandelson Cohen, 3, Coleman street, London. Pneumatic tires. January 9.
819. John Harker, James Edward Harker, and George Stephen, Pneumatic tire pumps and means for closing punctures. January 11.
820. Same. Puncture closing fluid for pneumatic tires. January 11.
945. Albert Joseph Isidore Rath, 4, Seymour terrace, Anerley, London. Pneumatic tires for vehicles. January 13.
972. Robert Adam Ramade Meiklem, Glasgow. Puncture preventing shield for pneumatic tires. January 14.
- 1,041. John Ebenezer Hopkinson, 60, Queen Victoria street, London. Pneumatic tires and rims therefor. January 14.
- 1,243. James Shepherd, 4, South street, Finsbury, London. Elastic tires and wheel rims therefor. January 16.
- 1,338. George Henry Rayner, 37, Chancery lane, London. Tires for cycles and vehicles. [Alfred Fenwick, South Africa.] January 17.
- 1,518. Edwin George Jackson, 55, Chancery lane, London. Method of attaching tires to rims. January 20.
- 1,524. Charles Brown Whitney, 11, Southampton buildings, Chancery lane, London. Punching bags. January 20.
- 1,533. Francis Hildebrand Gillibrand, 23, Coleman street, London. Bath cabinet. January 20.
- 1,585. Thomas St. John Bagnall, 9, Westland row, Dublin. Pneumatic tires. January 21.
- 1,643. Mary Edith Brooke, 53, Chancery lane, London. Elastic tires. [A communication from the United States.] January 21.
- 1,644. Athase Bondurand, 40, Chancery lane, London. Pneumatic tires for motor and the like vehicles. January 21.

- 1,645. Robert Hodges Bishop and William Down, "Hartwell," Highgate, London. Hose or syringe nozzles. January 21.
- 1,671. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Hot water bags. [Mortimer Sinclair Williams, United States.] January 21.
- 1,702. Andrew Morison, Glasgow. Golf balls. January 22.
- 1,809. James Pringle Cochrane, Glasgow. Golf balls. January 23.
- 1,831. Edward Daniel Wood, 43, Lugard road, Peckham, London. Chrome tanned leather for use on pneumatic tires. January 23.
- 1,943. James Henry Shaw, 2, Chesterfield gardens, East Putney, London. Vehicle and motor tire and rim. January 24.
- 1,994. Harry Heaton, 18, Southampton buildings, Chancery lane, London. Improvements in and relating to tires. January 24.

PATENTS GRANTED—APPLICATIONS OF 1900.

- 15,855. Means for joining the ends of air tubes of pneumatic tires. Miniszewski, J. von, Ettlingen, and Printz, T., Karlsruhe, Baden, Germany. September 6, 1901.
- 16,014. India rubber soles for boots and shoes. Matthew, P. M., Victoria India-rubber Mills, Edinburgh. September 8, 1901.
- 16,112. Air tube of pneumatic tire. Black, A., Glasgow. September 11, 1901.
- 16,116. Cork and rubber tire. Broughton, B., Hamilton, Ontario, Canada. September 11, 1901.
- 16,158. Horseshoe pad. Wilcox, E. A., No. 123 La Salle street, Chicago, United States. September 11, 1901.
- 19,404. Exercising apparatus. Wieland, H. W., 20, York road, Lambeth, London. September 14, 1901.
- 17,055. Method of attaching tire to rim. Williams, W. F., Great Pulteney street, Golden Square, London. September 25, 1901.
- 17,065. Method of attaching tire to rim. Smith, U. P., and Kane, T., Chicago, Illinois, United States. September 25, 1901.
- 17,136. Tread for tire. Kliemt, W., and Heinemann, A., Berlin, Germany. September 26, 1901.
- 17,203. Means for preventing punctures in pneumatic tires. Rittman, L. H., 26, Norfolk street, London. [Caeflin, H.; Rouen, France.] September 27, 1901.
- 17,295. Rubber tire, composition for tread of. Heller, A., Dresden, Germany. September 29, 1901.
- 16,485. Means for preventing puncture in air tube of pneumatic tire. Meisch, M. F., Rochester, New York, United States, September 15, 1901.
- 16,577. Rubber tire. Verel, A. A., 179, West George street, Glasgow. September 18, 1901.
- 16,624. Non-puncturable pneumatic tire. Thompson, W. P., 322 High Holborn, London. [Koch & Palm; Elberfeld, Germany. September 18, 1901.
- 16,640. Rubber tire. Price, R. B., and Calumet Tire Rubber Co., Chicago, Illinois, United States. September 18, 1901.
- 16,844. Preservative paint for India rubber tires. Philp, H. R., Pailton, near Rugby, Warwickshire. September 21, 1901.
- 16,849. Tread for pneumatic tire. Doran, W. T., Belfast, Ireland. September 21, 1901.
- 17,386. Rubber tire and method of attaching. Serban, L. M., 32, Michaelergasse, Vienna, Austria. October 1, 1901.
- 17,424. Pneumatic tire. Riches, W., Jarvis Brook, near Tunbridge Wells. October 2, 1901.
- 17,444. Double tube pneumatic tire. Macnar, A., 9, Throgmorton avenue, London, and Edmund W., Ealing, Middlesex. October 2, 1901.
- 17,446. Inflating cycle tires. Romans, C. A., 53, Washington avenue, Danbury, Connecticut, United States. October 2, 1901.
- 17,475. India-rubber compositions. Steenstrup, C. A. R., Copenhagen. October 2, 1901.
- 17,580. Tire inflator. Gray, C. H., India Rubber, Gutta-Percha, and Telegraph Works Co., Silvertown. October 3, 1901.
- 17,606. Rubber tire. Prettyman, C. A., and Swinburne, F., West Hartlepool, Durham. October 4, 1901.
- 17,654. Rubber tire. Sewell, W. H., Belfast, Ireland. October 5, 1901.
- 17,755. Method of attaching pneumatic tire to rim. Vandell, W. W., Norbury House, Southgate. October 6, 1901.
- 17,860. Pneumatic tire. Williams, W. F., 4, Denman street, Piccadilly circus, London. October 8, 1901.
- 17,979. Horseshoe pads. Erskine, W., Glasgow. October 10, 1901.
- 18,076. Outer cover for pneumatic tire. Hopkinson, W. C., 36, Bridge avenue, Hammersmith, London. October 11, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS 25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

GARDEN HOSE FOR 1902.

Rubber Lined Cotton.

Three, Four, Five
and Seven ply Hose

—ALL COLORS.—

Write for Samples and Prices.

The Mechanical Rubber Co.,

Cleveland Seamless
Tube Hose

Means Larger Sales,

No Complaints

For the Jobber.

Cleveland, Ohio.

BRANDS : :
WARRANTED 2X1,
ALUMINUM,
HIGH PRESSURE,
OLD GOLD,
SHAMROCK,
HIGH GRADE,
B-4-ANY,
GOOD ENOUGH,
BUCKEYE,
POPULAR,
WETMORE,
COMPETITION,
CLEVELAND,
EUCLID.

Mention The India Rubber World when you write.

The terms of the "Caupolican concession," agreed upon by President Pando and Sir Martin Conway, relate to the location

of not to exceed 15,000 square miles within the limits indicated on the map. The object of the company to be formed is to open mines and develop means of transportation, and export rubber and any other native products of value, on which they shall pay the customary export dues. Otherwise, the company is to be exempt from internal taxes for 50 years, and also from import duties on construction materials. But their imports for other purposes shall be dutiable. Of the net annual profits, 40 per cent. shall be set apart, one half to be applied to works of public utility and the other half to be subject to the discretion of the government. After 50 years the mines and properties of the company shall be subject to the taxes of the country, without any privilege whatever.

The difference between the two concessions is that, while the one for Caupolican relates to the exploiting of the resources of the district by the *cessionnaires*, as is being done on a smaller scale on many concessions already in Bolivia, the Acre concession relates to the general administration of a wide area, under terms by which the *cessionnaire* for the time being takes the place of the Government—respecting the rights, of course, of existing private enterprises in the district. Thus in its larger field of operations, the Bolivian Syndicate, instead of attempting a monopoly of development on the Acre, will be interested in encouraging all forms of legitimate enterprise within that region—their profits depending upon the extent to which the resources of the country are exploited. The financial interests involved in the two syndicates are identical.

HEARD IN THE RUBBER TRADE.

THE American faculty for terse and picturesque language is always a matter of marvel and oftentimes of admiration on the part of the foreigner. A case in point is that of a salesman of American mechanical rubber goods who has been in South Africa for some time and who, in order to get at certain large customers, attached himself to a British army train. Being very anxious to reach a certain city in a hurry he was much disgusted to learn that the engineer of the train refused to run at night for fear of the Boers. In venting his displeasure he wrote to a certain high army official that: "A man might just as well be in h— without a fan as to try to run an engine without nerve." This expression so caught the fancy of the officer that he at once showed it to General Lord Kitchener, who at once sought the acquaintance of the young man, and since then has counted him both friend and adviser.

* * *

W. A. STEWART, of Stewart Brothers & Co. (Pittsburgh), who was a recent visitor to the Atlantic coast, talked very interestingly of the rubber shoe business in the city named. He stated in brief that within 100 miles of Pittsburgh there were more rubber shoes sold than in any equal area in the United States. He stated further that the rubber boot trade was very large, as in the mines the sulphur water seems to destroy rubber rapidly, and in other places the oil is equally effective. In lighter foot-wear the iron and coal grit and rough roads seem to call for an unusual number of pairs of rubber shoes.

* * *

THE "Trust" is not, to everybody at least, an unmitigated evil. Instead of being crushed out by it, the retailer frequently uses it to reap an undue profit from the consumer. An official in the United States Rubber Co. relates this as an experience which happened to two of his intimate friends. They went into an uptown New York retail store, during the storm, to purchase rubber shoes. The dealer charged them \$1.25 per pair for ordinary light shoes. They complained of the extor-

tion, when the dealer explained: "Well you know rubber shoes are in the hands of a trust, and prices are away up." As a matter of fact, these very shoes had been sold to the retailer at 51 cents per pair, and the seller was simply using the trust bugaboo to get a profit of something like 150 per cent.

* * *

THERE was once a rubber manufacturer who was alert, aggressive, capable, and marvelously successful. When he was thirty-eight years of age he was worth more than a million and a half dollars. His moral equipment, however, was as weak as his physical and mental was strong. His motto was: "A sucker is born every minute, and that's the fish I am after." To day he is practically penniless, his friends gone, and he himself a fugitive from justice. A true story and a sad one, with a colossal moral.

RUBBER NOTES FROM EUROPE.

THE commission convened annually by the German imperial statistical office for the extension of trade with foreign countries was in session at Berlin on March 13, 14, and 15. Director Louis Hoff, of the Vereinigte Gummiwarenfabriken, Harburg-Wien, and a member of the chamber of commerce of Harburg, has been added to the commission as an expert on rubber manufactures. Director S. Seligman, of the Continental Caoutchouc- und Guttapercha Co., and a member of the Hanover chamber of commerce, was already a member of the commission. The *Gummi-Zeitung* says: "It is said that both gentlemen work earnestly and conscientiously in the duties of their honorable offices. This is further proof that the rubber industry is recognized to be one of the leading enterprises in the commercial world."

=Proceedings have been begun in London for winding up the Orton (Bolivia) Rubber Co., Limited, organized some six years ago, with £300,000 capital.

PROFITS OF AN ENGLISH CABLE WORKS.

AT the thirty-eighth annual meeting of the Telegraph Construction and Maintenance Co., Limited (London, March 4), the chairman announced that the report submitted was the best within his recollection, and the profits for the year the largest. Their total assets were now £2,396,665. The year's trading had yielded a net profit of £105,695. The dividend now to be declared would bring the payments to 20 per cent. for the year. There would be carried forward £91,000, against £76,554 last year. The year had witnessed the completion of a new all British line from Cornwall (England) to Australia, connecting with Capetown, being 15,000 nautical miles in length—the laying of the first section of which was completed early in 1900. The cost involved was £3,000,000. The company were now at work on the British Pacific cable to connect Vancouver with Australia, and which had to be completed this year. Their cable ship *Anglia* was now in the Pacific, laying some of the shorter sections. In order to complete the laying of the cable they had launched a new cable ship, the *Colonia*, which was the largest in the world, which would carry 10,000 tons dead weight.==The paid-up capital of the company consists of £448,200, in £12 shares, quoted at the beginning of the past month at 38 @ 41. There are outstanding £150,000 in 4 per cent. £100 debentures, redeemable 1909, quoted at 102 @ 105.==On March 20 the *Anglia* reached Doubtless Bay, New Zealand, having completed the laying of the sections of cable from Norfolk Island to Southport, Queensland, and to Doubtless Bay—1473 miles. Australia and New Zealand are thus connected. The *Anglia* had on board also 1019 miles of cable to connect Norfolk Island with Fiji.

THE CLOSE OF THE RUBBER FOOTWEAR SEASON.

THE season just closing has witnessed a marked exception to the generally accepted rule that, to be of value to the rubber boot and shoe trade, a heavy snowfall must come early in the winter. During February and March there were snowstorms of such a character that they would have driven people to buy rubbers in August. Not only was the depth of snow deep, and its duration longer continued than is usual in many sections, but the total area covered, under these conditions, was greater than for several years past. In consequence, it is believed that retailers in most parts of the snow belt were enabled to clean out their rubber stocks to a greater extent than for the past two years, while many jobbers, who had considered their busy season at an end, were called upon for fresh supplies. An immediate result of this favorable condition was that jobbers began to receive orders for next season's trade, and manufacturers will begin the new season with much more encouraging prospects for a demand for their products than was the case at this time last year or the year before. Below are some details obtained from the trade in various sections, which are believed to be fairly representative of the conditions prevailing through the regions in the United States where rubber footwear is worn:

NEW YORK CITY.

At the general offices of the United States Rubber Co. it was stated that their stocks were almost exhausted as a result of the late storms, whereas usually a large reserve was kept on hand. "I do not think I overestimate," said a member of the office staff, "when I say that the recent snows have been worth between \$5,000,000 and \$10,000,000 to the United States Rubber Co. alone. Our office stock is exhausted and we are already, early in March, receiving numerous orders for shoes and boots to be delivered next fall. I think all the factories will be compelled to run at very near full time during the coming season. The average of snow over a large area of country was very great, and the immediate demand for rubbers was so urgent that the retailer not only sold his up to date stock but worked off his old stock."

William Morse, president of the Merchants' Rubber Co. (Nos. 70-72 Reade street), said that their stocks of rubber boots and shoes had been almost exhausted. "While every class of rubber footwear sold actively," said he, "there was an especially active demand for 'storm king' boots. I came to my office on Sunday, March 2, to get some mail, and before I could get away, I sold 800 pairs of these boots to parties from Paterson, New Jersey. That city was under water and they had to have boots. Several other sections of New York state and New Jersey were also suffering from floods, and it only took a few days to exhaust the market so far as this style of boots was concerned." Mr. Morse said that many orders were coming in already for next season's trade, indicating a general depletion of retailers' stocks.

Irving R. Fisher, of Nathaniel R. Fisher & Co. (No. 146 Duane street), said that the demand from the city retailers was so great that the firm had difficulty in keeping up with orders. They made 300 deliveries in one day. Mr. Fisher thought that, on account of so many rubbers being sold late in the season, and likely to be worn only a few times before spring, many people might not feel like buying new rubbers next season. But he did not believe that this would prevent the retailers whose stocks have now become exhausted from

buying liberally, in order to be ready for any emergency next winter.

J. L. Allen, at the office of Morse & Rogers (No. 134 Duane street), said that his firm had practically cleared all their lofts of rubber footwear. Several hundred cases of rubber boots were delivered in a single day. An accumulation of 400 cases of out of style shoes, which the firm had had no idea of ever finding customers for, disappeared quickly when people began to buy rubbers without caring what the styles might be. Mr. Allen did not think that enough people would save their rubbers bought this spring, to affect the demand for such articles next season.

Among retailers throughout the city the same sort of testimony was given in regard to the effect of the weather upon the rubber shoe trade. J. Frank Beamish, manager of the shoe department of John Wanamaker's store, said that he had almost entirely cleaned out his stock. "We not only had an unusually large quantity of up to date rubbers," said he, "but we bought last summer all of the old style stock of the United States Rubber Co. and most of the old stock of George Watkinson & Co. These goods we put on the market at considerably less than the regular price for rubber shoes. We kept this up during the fall and winter, beginning in September last, until we had disposed of the entire stock, and we sold of this class of goods alone upward of 250,000 pairs. The snow and slush of the late winter enabled us to dispose of our regular stock, which was larger than ever before, and entirely apart from the cheap rubbers, at fair prices and with remarkable speed. Our stock is at present very much lower than it has been for the past three years. The demand for rubbers during the latter part of February and first week of March was phenomenal, and the buyers made no inquiry about brands or styles. They wanted rubbers for immediate protection."

L. M. Hart, manager of Cammeyer's shoe store in Sixth avenue, said that never in the history of the store had the stock of rubber shoes been so light as at present. The effect of the storms had made the demand for rubbers so active that the stock was speedily cleaned out. As much replenishing was done as possible, but the manufacturers had been unable to furnish the goods.

W. H. Conner, manager of the shoe department for H. C. F. Koch, on One Hundred and Twenty-fifth street, said that when the unanticipated demand had depleted his stock he bought all he could get from jobbers, but he could not get all that he wanted. The customers as a rule took anything they could get, and old styles as well as new were all disposed of.

George W. Berrian, of Maiden lane and Nassau street, one of the oldest retail rubber houses in the city, said that his stock was thoroughly sold out. His trade is largely with persons having offices in the lower part of the city and residing in the suburbs. Everybody had bought during the periods of snow, and the suburban residents had been especially heavy purchasers of arctics and boots. Trade had been slow up to the snows and then he sold more rubber foot wear in a few weeks than he had sold in two seasons. The customers cared nothing about brands.

Like reports were made by small retail dealers throughout the city, as, for instance, those on upper Third avenue. The demand for rubbers had been active, and stocks had become greatly reduced.

WESTERN NEW YORK STATE.

FRANK C. HOWLETT reports, in regard to the territory adjacent to his Syracuse and Buffalo stores: The weather conditions for the past few weeks have been favorable for the sale of boots and light rubbers. We have received some 'sizing up' orders, which goes to show that the stocks in the hands of retailers are becoming reduced, and we do not anticipate that they will carry over a very large stock."

ST. LOUIS.

A LEADING jobbing house reports: "In our judgment stocks of rubber footwear in the hands of retailers generally, throughout the west and southwestern section, are extremely low. There are perhaps more boots being carried than any other one article in the line of rubber footwear. There has been a heavy demand during the winter months for fleeced lined goods, especially arctics. It is our opinion that rubber stocks, in the hands of both jobbers and retailers, are reduced to a minimum."

ST. PAUL.

JAMES SUYDAM, secretary and manager of the Goodyear Rubber Co., reports: "February, in this section, was very favorable to the sale of light rubbers, and the stocks of retailers have been reduced. They are now quite low, judging from the way that orders came in, nearly every order during the past few weeks having been marked 'rush.' Most of the jobbers of rubber shoes, we think, have been using extra hands and working extra time; at least this has been our experience. The improvement in financial conditions in this part of the country has made an increased demand for the better grades of goods. This was very noticeable the past year, when the proportion of the demand for better grades to poorer grades was far in excess of the previous years. It is quite certain that in some sections large stocks have been carried over. This has been the third winter, in succession, in this territory when there has been very little snow, and while the temperature has been low, there is not a large demand for rubber overshoes unless there is snow on the ground. The early breaking up of the ice and cold weather has curtailed considerably the operations in the woods by the lumbermen, with the effect of lessening the demand for lumbermen's shoes."

THE SOUTHEAST.

CRADDOCK-TERRY CO. (Lynchburg, Virginia) report: "In the territory which we cover—that lying south of the Potomac and Ohio rivers and east of the Mississippi—this has been an exceptionally good winter for the sale of rubber boots and shoes. In our opinion, retailers have been enabled to clean up their stocks better than they have done for some years, and the outlook for a good business the coming season is better than usual. Our territory takes mostly light goods, the 'storm slipper,' in men's and women's, being the popular shoe."

* * *

NEWSPAPERS throughout the snow belt contained articles during the storm period indicating an unusual demand for rubber footwear, many retailers being quoted as reporting the largest sales ever known for the same length of time.

RUBBER SHOES FOR HORSES.

A READER asks if rubber horseshoes for horses are a success. They are a pronounced and decided success for use on hard and slippery pavements, and for sorefooted horses. They save jar and concussion to a great degree. With the remarkable extension of the smooth asphalt as a street paving material, we are convinced that city horses, if humanely treated, must be shod with a shoe which will bring a rubber surface in

contact with the smooth pavement. Some of the shoes now in use are what may be called "rubber tired," a combination of rubber and steel, the metal being next the foot. Some shoes are made to hold a rubber pad over the frog, but the contact of either rubber or leather with the frog is objectionable. A very satisfactory form consists of a steel shoe in which is a groove that holds a strip of rubber securely by reason of the clever design, and the tread is on the rubber not the metal. In general all these rubber and steel shoes or rubber pads will last about as long as a shoe should stay on a horse's foot—three or four weeks. Hard usage on gravelly or gritty roads will, however, cut the rubber off in less time. We use a rubber shod shoe with much satisfaction on a driving mare, but a journey of sixty miles one day over rock and gravel roads wore the rubber clear down to the steel.—*Breeder's Gazette (Chicago)*.

NEW TRADE PUBLICATIONS.

THE DAVOL RUBBER CO. (Providence, Rhode Island), have issued a revised edition of their illustrated catalogue of Fine Rubber Goods for the druggists', surgical, and stationers' trades. It is an attractively made book, covering the whole range of goods of the classes referred to, with pictures that give a good idea of the goods described, and prices of every item. Attention is called in a prefatory note to the care taken to produce goods of a high quality, at prices as low as those quoted by any first class house. [9"×6". 103 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) have issued a new illustrated catalogue of Bicycle Tires—including single tube, double tube, cushion pneumatic, and detachable, designed for all cycling purposes, and involving some important features of construction on which the company hold patents. There is also included a full line of tire sundries, including repair outfits. [7"×4½". 36 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue a catalogue of Rubber Boots and Shoes, dated March 1, 1902, containing illustrations and prices of their "Maltese Cross" and "Lion" brands. [4"×6¾". 68 pages.]

HOOD RUBBER CO. (Boston), have issued a handsome illustrated priced catalogue of Rubber Boots and Shoes, for the season of 1902, covering their "Hood" and "Old Colony" brands, and embracing a number of special lines—for example, their "Plymouth" line of goods for men, women, and children. [3¼"×6¼". 64 pages.]

THE DUNLOP TIRE CO., LIMITED (Toronto) send us a neat illustrated booklet devoted to Vehicle Tires, solid rubber and pneumatic, with references to their horseshoe pads and rubber matting. [4"×5½". 16 pages.]

SOME WANTS OF THE RUBBER TRADE.

[234] "CAN you give us the name and address of a hard rubber manufacturer, who would be a good party to make the backs of hair brushes?"

[235] "Where can we obtain glass forms for catheters and tubes?"

[236] From a jobbing house: "Can you advise us as to the parties putting on the market a long handle rubber force cup?"

[237] "Please give me the addresses of parties who do suspender weaving for the trade."

[238] An English firm of India-rubber merchants write: "Can you tell us the names of some American houses who manufacture raw hide pinions?"

THE CHIAPAS RUBBER COMPANY.

ON more than one occasion advertisements issued by the Chiapas Rubber Plantation and Development Co. (San Francisco), and published statements regarding their progress, which had the appearance of having been inspired by the company, have been criticised in THE INDIA RUBBER WORLD, as tending to discredit that enterprise, and even to discredit rubber planting as a whole. At one time THE INDIA RUBBER WORLD offices were visited by Mr. L. H. Bonestell, head of the large wholesale paper house of Bonestell & Co., of San Francisco, and president of the Chiapas company, who desired the publication in this paper of certain statements respecting the work done by the planting company in Mexico. Mr. Bonestell said that these statements had been made to him by others more intimately connected with the management, but that they were not matters of his own personal knowledge. It was suggested to him that, after he had personally inspected the plantation, space would be afforded in THE INDIA RUBBER WORLD for any statement which he might make.

Mr. Bonestell has since visited the Chiapas plantation, and now favors THE INDIA RUBBER WORLD with a lengthy letter, together with a printed report on his visit, addressed to the directors of the company, and forming No. 7 of the company's bulletin, the "Chiapas Rubber News." The bulletin is devoted chiefly to the location of the estate and to the general development work done. Mr. Bonestell says in it that he rode on horseback "over the ground already planted and over that being cleared for planting this coming June and July." On the planted ground, he says:

I found a uniform growth of young rubber trees planted in June and July last [1901], and all having a bright, green, healthy, and vigorous look; many having reached the height of two feet, and showing without question, that being planted at the stake (*i. e.*, in the ground where they are to remain), produces far better results than planting in a nursery and then transplanting, which latter sets the plants back from four to six months. In this manner, no nursery is required.

As to the extent of the planting the report says: "With the very large acreage now planted and the amount of land cleared and being cleared [the plan of partial clearing is followed], we should have from 10,000 to 12,000 acres planted by the middle of this coming July."

Now in March, 1901, Mr. Lucian Nicholl, representing the Chiapas company, called at THE INDIA RUBBER WORLD offices and stated that planting had been begun in 1900, and that about 60,000 trees [presumably covering 300 acres] were then standing, and that the nurseries contained 50,000 more trees, soon to be transplanted. And in November, 1901, Mr. Bonestell stated in our offices, that planting was then in progress; that about 3000 acres had been planted in rubber; and that it was expected that 5000 acres more would be planted before the end of the year. An advertisement offered by the Chiapas company for insertion in THE INDIA RUBBER WORLD last November, but which was not accepted, stated: "*The company have over 4000 acres already planted and as much more land cleared ready for planting with plants growing in a nursery sufficient to plant the same.*" It happens that planting seeds "at stake" can be done only in the few weeks of June and July while the seeds are ripening, for the seeds do not long retain their vitality. To plant at any other season would necessitate the making of large nurseries, providing 200,000 trees for each 1000 acres planted. In *Modern Mexico* for May, 1901, C. B. Waite wrote that he had visited the Chiapas estate, where he found 250 acres planted in rubber, and 300,000 young trees in

the nursery, which would have made possible a total planting of 1750 acres up to the present time, plus any planting of seeds at stake last summer.

It is to be regretted that President Bonestell, in reporting to his directors, is not more definite in regard to the amount of work done. He does state that the company had 140 men employed in clearing land, opening roads, and building bridges, with as many more working under contractors. But such a force would hardly be adequate for such large planting operations as are mentioned above.

Nor is Mr. Bonestell's letter more definite. Touching the question at issue he merely confirms his printed report, and says: "From my recent experience I am fully satisfied with the future prospects and production of the Chiapas company." As favorable to his proposition, however, he mentions measuring a few planted rubber trees, ten years old, on a neighboring estate, from 40 to 50 feet in height, with a girth of 40 to 45 inches, two feet from the ground. He also obtained a small amount of rubber from a tree on the Chiapas property, 21 months old, from the seed, and 15 inches in girth.

Having submitted his facts, Mr. Bonestell writes:

I leave for you to consider whether or not the articles appearing in your paper have been just or otherwise toward the Plantation company.

THE INDIA RUBBER WORLD has to repeat that it is without animus against any company actually engaged in planting rubber, but is anxious in every way to encourage the planting interest. But it cannot withdraw any remarks made in the past against the use of garbled extracts from the late Minister Romero's book to create misleading hopes in regard to profits from rubber, or against advertisements giving the impression that rubber gathered from planted trees on the Chiapas estate had been sold in the open market at \$1.02 a pound. However, such statements no longer appear in this company's printed matter, and no longer concern us.

THE INDIA RUBBER WORLD has expressed doubts as to whether any important work in planting had been done by the Chiapas company; it was morally certain that certain published statements—who was responsible for them, we don't know—were misleading. To-day THE INDIA RUBBER WORLD has no idea how many rubber trees, or how many acres, have been planted by the company. It would, however, afford the Editor much pleasure to accept President Bonestell's invitation to visit his company's property.

* * *

AND now Mr. A. J. Scott, engaged in Chicago in promoting the Chiapas enterprise, issues an advertisement stating:

All records have been broken by the Chiapas plantation in the number of shares sold and acres planted to rubber trees.

What do you think of the sale of 12,000 acres in two years?

What of planting 2,000,000 trees in the nursery within 18 months? Clearing and transplanting 6000 acres in one year? Transplanting 1633 acres in one month?

Mr. Scott's advertisement, by the way, is embellished with a photographic view of one of the Chiapas company's rubber nurseries, and another of a section covered with transplanted rubber trees—indicating that he doesn't know that under the Chiapas planting system nurseries are not needed.

* * *

MEANWHILE there are continued indications of the growing prosperity of the general manager of the Chiapas company. The *Mexican Herald*, of March 9, reported: "Rev. J. W. Ellsworth, president of a land company in the state of Chiapas, has presented the members of the American Club with a new phonograph." It is probably supplied with "records" of the extent of rubber planting in Chiapas.

LITERATURE OF INDIA-RUBBER.

LES PLANTES A CAOUTCHOUC ET LEUR CULTURE. PAR LE PROFESSEUR DR. O. Warburg, directeur du *Tropenpflanzer*. Traduction complétée et annotée par J. Vilbouchévitch, directeur du *Journal d'Agriculture Tropicale*. Paris: Augustin Chailamel, 1902. [Paper, 8vo. Pp. xvi + 507. Price 9 francs.]

THIS work appeared originally as a compilation of articles contributed by Dr. Warburg, an eminent German botanist, to the monthly issues of *Der Tropenpflanzer* (Berlin), of which he is the editor. In this form it was noticed in THE INDIA RUBBER WORLD of March 1, 1900. It embraced in concise shape a valuable fund of information, gleaned with much painstaking from every available authority. In presenting the French edition now before us, not only has M. Vilbouchévitch proved a most capable translator, but he has availed of his wide knowledge of his subject to augment to an important degree the stock of information pertaining to rubber, particularly where opportunities existed for the introduction of later discoveries. The number of pages has thus been doubled—though the contents of each are somewhat smaller—and the number of illustrations has been increased from 9 to 26. There are chapters on the world's production and consumption of rubber, and on the leading rubber yielding species—the rubbers of Pará, Central America, Africa, the East Indies, and so on. The botanical information is presented with much care, with notes on the quality of the various products, the amount of yield, the conditions favorable to growth, and methods of planting and of collecting rubber. The statistical summary in the opening chapter is the most comprehensive, with the addition of M. Vilbouchévitch's notes, that has yet appeared. It is pleasing to THE INDIA RUBBER WORLD to notice the number of references to the statistical data that have appeared in our pages.

LE CAOUTCHOUC BRUT ET SES TRANSFORMATIONS EN CAOUTCHOUC MANUFACTURÉ. Par Henry C. Pearson, Editeur du THE INDIA RUBBER WORLD, traduit et adapté par G. Lamy-Torrillon, fabricant de Caoutchouc, etc. Paris: J. Fritsch, 1902. [Paper, 8vo. Pp. 239.]

THIS is a translation of the whole of Mr. Pearson's work, "Crude Rubber and Compounding Ingredients," a textbook of the rubber manufacture. The translation and the general adaptation of the book to the needs of French workers in rubber, have been most capably done by a gentleman who is not only a practical manufacturer of repute, but is also the author of a standard work on "Le Caoutchouc et la Gutta-percha." In an introduction to this translation, by the author of the original edition, reference is made to the indebtedness of the rubber industry as a whole to the work of French scientists, from the first discovery of Caoutchouc, by the geographer La Condamine, and including many chemists of note. It may be added that the fact that this work, designed primarily for use in American factories, has been deemed worthy, in France, of translation into the language of that country, in order to bring it within the reach of rubber workers there, is evidence that the best practice in the rubber industry is universal, instead of having peculiarities local to each manufacturing country.

IN CURRENT PERIODICALS.

LA Caoutchouc au Soudan. By E. D. W. [ildeman]. [Summary of a report by H. Hamet on methods of coagulation.]=*Bulletin de la Société d'Études Coloniales*, Brussels. VIII 12 (December, 1901.) pp. 851-855.

Extract from Report of Mr. R. Derry, Superintendent of Government Plantations, Perak, for the year 1900 (on the yield of Hevea and other rubber species, under cultivation.)=*Agricultural Bulletin of the Straits*, Singapore. I-1 (October, 1901.) pp. 19-24.

Cauchó. By Frederico Martinez de Castro. [Recommends the planting of *Castilloa elastica* in Cuba.]=*Revista de Agricultura*, Havana. XVI-15 (September 1, 1901.) pp. 233-235.

Observations sur les Arbres à Caoutchouc de la Région Amazonienne By Dr. Jacques Huber, chief of the botanic section of the Pará Museum. [An enumeration and description of the Amazon rubber species, including some recently identified for the first time.]=*Revue des Cultures Coloniales*, Paris. X-95, 96 (February 20, March 5, 1902.) pp. 97-105; 133-139.

Quelques mots a propos du *Funtumia elastica*. By Dr. E. De Wildeman. [A contribution to the nomenclature of rubber species formerly comprised in the genus *Kickxia*.]=*Revue des Cultures Coloniales*, Paris. X-94 (February 5, 1902.) pp. 74-76.

De oogst van Caoutchouc in Brazilïë. [The cultivation of rubber in Brazil. From the *Bulletin* of the society of commercial geography of Paris.]=*De Indische Mercur*, Amsterdam. XXV-3 (January 21, 1902.) pp. 43-44.

On the resistance of Dielectrics, and the Effect of an Alternating Electromotive Force on the Insulating Properties of India-rubber. By A. W. Ashton, B. SC.=*Philosophical Magazine and Journal of Science*, London. II-11 (November, 1901.) pp. 501-523.

OTHER PUBLICATIONS RECEIVED.

A TEXT BOOK OF COMMERCIAL GEOGRAPHY. BY CYRUS C. ADAMS, B.A., F.A.G.S. New York: D. Appleton & Co. 1901. [Cloth, 12mo. Pp. 505. Price \$1.30, net.]

A KNOWLEDGE of commercial geography has become more and more essential to international trading, with the growing keenness of competition in all the world's markets. This little volume is admirably adapted to give the first suggestions of natural or physical causes, and their effects, in the development of commerce, to the reader who has not before studied such subjects. Because certain goods sell freely in one country, it does not follow that they will be equally in demand in all others, just as the natural products of different regions vary; even political and religious peculiarities of a race or nation will influence its commercial methods. Such considerations are treated in this book, together with details of the character and extent of the products and imports of every country, as well as the soil, climate, means of transportation, and the like. A copious index enables one readily to refer to whatever the book may contain on any subject; there are, for example, 19 references to India-rubber. The author, a member of the New York *Sun's* editorial staff for twenty years, has contributed to that journal many informing articles on geographical subjects and on colonial development, besides which he has been an active member of several geographical societies. This book is a crystallization of his work in these channels for a long period. While issued in Appleton's series of "Twentieth Century Text Books," for school room use, it is suited for general reading and reference, for which purpose it is additionally valuable by reason of the number and excellence of its maps.

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE FOR BOOTS, Shoes and Lasts, Leather and Saddlery, and Rubber Goods. Compiled and Published by Fowler & Bryson, Patent, Trade-mark, and Copyright Lawyers, Bank of Commerce Building, St. Louis, Mo. [1901.] [Paper, 8vo. 109 pp.]

THIS pamphlet contains a list, under the various classes named in its title, of registered trade-marks, expressed in the same style as the mention of trade-marks relating to rubber published monthly in THE INDIA RUBBER WORLD in our record of patents. There are 262 rubber trade marks listed in the book, and the book will prove of interest and value to those who are thinking of having trade-marks registered, in helping them to avoid duplicating marks already on record.

BOLIVIA: Its Position, Products, and Prospects. London: Privately Published. 1901. [12mo. pp. 26 + map.]

Bee-Keeping in the West Indies. By W. K. Morrison. [Imperial Department of Agriculture for the West Indies. Pamphlet No. 9.] [Barbados]: 1901. [16mo. pp. 73.]

Jaaroverzichten betreffende den handel in koloniale producten, 1901. Amsterdam: J. H. de Bussy, 1902. 70 pp.+folding tables.

NEWS OF THE AMERICAN RUBBER TRADE.

UNITED STATES RUBBER CO.—NEW FINANCIAL PLAN.

PLANS are reported to be under way for the funding of the floating debt of the United States Rubber Co., now distributed among various financial institutions throughout the country, into one obligation. This debt is reported to be in the neighborhood of \$11,000,000. The plan referred to involves the issue of \$12,000,000 in 5 per cent. first mortgage gold notes, due from 1902 to 1905. Such an arrangement would establish an annual interest charge of \$600,000, having priority over the preferred share dividends. President Colt, of the rubber company, is in charge of the projected reorganization of the company's finances, the details of which are expected to be carried out by Blair & Co., bankers, No. 41 Wall street, and the First National Bank of New York. The Blair firm have acted in a similar capacity in refunding obligations of the American Linseed Co. and the Pressed Steel Car Co., on lines which will be followed in the case of the United States Rubber Co. At a regular meeting of the directors of the rubber company (New York, March 20), two vacancies in the board were filled by the election of Francis L. Hine, vice president of the First National Bank, and Francis Lynde Stetson, a member of the law firm of Stetson, Jennings & Russell, and who is referred to as J. Pierpont Morgan's attorney. Prior to this election the news had emanated from Boston that "the Keene interests" in United States Rubber, would demand representation on the board, their holdings, mostly of common stock, being variously estimated, up to as much as 50,000 shares. Mr. Morgan has not been understood to have any interest in the matter, though the fact of his having had large transactions with Charles R. Flint became public shortly after the latter's retirement as a director in the United States Rubber Co., and about the time of the failure of the Crude Rubber Co. It was then that Mr. Flint stated, in a newspaper interview, that he had borrowed \$1,000,000 from Mr. Morgan in 1900, the last \$500,000 of which he had paid about the middle of December, 1901, but in what way the debt was cancelled he did not state. Mr. Blair, the banker above referred to, is quoted as saying that a recent investigation showed the United States Rubber Co. to be in a solvent condition. The benefit of the proposed refunding of the company's debt would be that their consolidated notes would find a better market, and that there would be less trouble to the concern issuing them. Under existing conditions the management of the company were kept busy, making provision for the frequent maturity of obligations in many banks. President Colt is quoted by a Boston journal as stating that the collective indebtedness of the constituent companies of the United States Rubber Co., at certain seasons, amounts to about \$10,000,000. "In the past the United States Rubber Co. has been obliged to borrow money for working capital. Through the issue of these notes the company will fund its indebtedness into one kind of security, and it will not have to borrow its working capital. This will naturally strengthen the financial position of the company." The trustees of the note issue will be Blair & Co., the First National Bank, and the Morton Trust Co. In connection with the new developments above noted has been an increased amount of trading in United States Rubber, and an advance in prices. The rumor was also afloat that a consolidation with the Rubber Goods Manufacturing Co. was probable, but this was without foundation. Transactions on the New York Stock Exchange have been:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Feb. 21	10,160	16 $\frac{3}{4}$	14 $\frac{1}{2}$	3,853	44 $\frac{3}{4}$	43 $\frac{1}{4}$
Week ending Mar. 1	5,760	17 $\frac{3}{4}$	15 $\frac{1}{2}$	5,398	59 $\frac{3}{4}$	55 $\frac{3}{8}$
Week ending Mar. 8	1,427	16	15	533	56 $\frac{1}{2}$	55 $\frac{7}{8}$
Week ending Mar. 15	1,157	16 $\frac{1}{4}$	15 $\frac{1}{4}$	630	57	56
Week ending Mar. 22	11,130	18 $\frac{3}{8}$	15 $\frac{1}{2}$	9,750	63 $\frac{3}{4}$	56

At a later meeting of the directors (March 27) another vacancy on the board was filled by the election of Middleton S. Burrill, of the law firm of Zabriskie, Burrill & Murray, of No. 49 Wall street, New York. The number of directors is thus brought up to sixteen. The by-laws provide for nineteen, but the full number has not been elected for several years past. Since the last annual meeting Charles L. Johnson, a member of the board, has died, and Charles R. Flint resigned.

CRUDE RUBBER CO.—SHERIFF'S SALE.—BANKRUPTCY.

THE following advertisement appeared in one New York newspaper—the *Herald*—on the morning of March 12:

SHERIFF'S SALE.

Sheriff's auctioneer will sell this day WEDNESDAY, March 12, 1902, at 10:30, in the forenoon, at No. 25 Broad st., rooms 1,822 and 1,823, eighteenth floor, lot of office Furniture, consisting of rolltop Desks, Tables, Chairs, Typewriters, Safes, &c.; also lot of Crude Rubber.

WM. J. O'BRIEN, Sheriff.

JOS. F. PRENDERGAST, Deputy Sheriff.

The news had previously emanated from the sheriff's office, however, that the sale would embrace "The right, title, and interest of the company in a large quantity of crude rubber which is held by bankers as collateral security for loans amounting to \$462,410"—the sale being under an attachment in favor of the Hempstead (Long Island) Bank, which had been merged into an execution for \$5156. The amount realized for the office fixtures was \$1771, including about \$900 for some small lots of sample rubber in the office. It was decided to postpone the sale of the other rubber referred to above. March 19 the receivers for the Crude Rubber Co. were authorized by the United States court to dispose of a quantity of crude rubber now in store. This rubber consists of a lot of odd parcels left over from original importations, including a lot of African rubber, which, it was claimed, would deteriorate in value if held through the summer. The receivers were instructed to sell the rubber at private sale in such way as in their judgment might seem best. An involuntary petition in bankruptcy was filed in New York March 24 against the Crude Rubber Co. by three creditors: Bank of New Brunswick, of St. John, \$5000; First National Bank of Ottawa, Illinois, \$5000; and the National Bank of Montana, at Helena, \$5000. All the claims are on notes of George Watkinson & Co. (Philadelphia), made on September 25 and October 10 last, and indorsed by the Crude Rubber Co. The petitioners allege that the company is insolvent, and has committed various acts of bankruptcy within four months past, among which is enumerated the appointment of Charles R. Flint and Wallace B. Flint for the appointment of a receiver for the company, into whose hands was placed property of the company worth \$100,000, for the purpose, as alleged, of hindering other creditors and giving unlawful preferences. All persons having claims against the Crude Rubber Co. are notified by the receivers to present the same, not later than April 21, at the office of William W. Ladd, Jr., No. 20 Nassau Street, New York.

BOSTON BELTING CO. WIN A SUIT.

THOSE who have known of the long continued and plucky fight that the Boston Belting Co. have maintained against the city of Boston for years past, in the Stony Brook matter, will be interested to know that the city has finally awarded the company \$184,000 damages, less \$46,000 deducted for water already supplied, making the cash award \$138,000. Further than this, the city agrees to pay an additional \$387,666 if it fails to supply 3000 gallons a day for manufacturing purposes for a period of twenty-two years from January 1, 1902. It will be remembered that in 1890, after a suit full of vexatious delay, the city paid the company \$246,000 in damages because of serious overflows which flooded their works, these floods being caused by changes in the bed of the brook. After this award the city went to the other extreme and, altering the course of the stream, took the water away, which, of course, was a direct infringement on their water rights, resulting after a long fight in the second award.

CONSOLIDATED RUBBER TIRE CO.

THE company have filed with the Manhattan Trust Co., agent (New York), a statement of account of the twelve months ending December 31, 1901, showing that their net income for that period, applicable to the payment of interest upon their debenture 4 per cent. fifty year sinking fund income bonds, is sufficient to pay interest thereon at the rate of 3 per cent., and such interest will be payable, on and after April 1, at the office of the Colonial Trust Co., No. 222 Broadway, New York. The bond issue amounts to \$3,000,000, under an agreement dated April 1, 1901.

AMERICAN CHICLE CO. DIVIDEND REDUCED.

THE regular quarterly dividend of $1\frac{1}{2}$ per cent. on the preferred stock and a dividend for the quarter of 1 per cent. on the common stock are payable April 1 to shareholders of record on March 26. The last dividend declared on the common stock—payable January 2—was 2 per cent. The total dividend paid on the common stock for 1900 was 9 per cent.; the total for 1901 was $7\frac{1}{2}$ per cent. The company's shares have been quoted:

	Preferred.	Common.
December 30, 1900.....	75	85
December 30, 1901.....	81	82
March 26, 1902.....	82 $\frac{1}{4}$ -84	82-85

CHICAGO AUTOMOBILE SHOW.

THE annual automobile show at Chicago was held in the Coliseum, from March 1 to 8, under the auspices of the Chicago Automobile Club and the National Association of Automobile Manufacturers. The exhibition was fully representative of the automobile manufacturing interest, and was well attended. Exhibits of tires, some of them very complete and effective, were made by the following firms:

Clark Tire Co. Chicago.
 Diamond Rubber Co. Akron, Ohio.
 The B. F. Goodrich Co. Akron, Ohio.
 Goodyear Tire and Rubber Co. Akron, Ohio.
 The G & J Tire Co. Indianapolis, Ind.
 Hartford Rubber Works Co. Hartford, Conn.

[This display included the Dunlop tire.]

India Rubber Co. Akron, Ohio.
 International Automobile and Vehicle Tire Co. New York.
 Mechanical Tire Co. Westfield, Mass.
 New York Belting and Packing Co., Limited .. New York.

THE DUNLOP TIRE CO., LIMITED. (TORONTO.)

THIS company have been marketing for some time, with a good measure of success, solid wired-on rubber vehicle tires. They are also handling rubber mats and matting, rubber horse-shoe pads, and rubber heels. Also, in connection with their

bicycle tire trade, the regular Dunlop motor and carriage tires.

CANADIAN RUBBER CO. OF MONTREAL.

AT the annual meeting, on March 13, the election for directors resulted: H. Montagu Allan, J. B. Learmont, W. H. Benyon, C. F. Smith, Andrew A. Allan, H. Markland Molson, J. O. Gravel, F. J. Hart, and F. C. Henshaw. The two last named are new on the board, the others being reelected. Subsequently H. Montagu Allan was elected president; J. B. Learmont vice president; and E. A. Wright secretary-treasurer.

IMPORT DUTY ON BALATA SHEETS.

SCHRADER & EHLERS (New York), on January 29, entered an importation of Balata sheets, fitted for such goods as dress shields, which were assessed for duty at 35 per cent. *ad valorem*—on account of their similarity to Gutta percha wares, no provision existing in the tariff schedule for Balata. The importers, however, protested, on the ground that the goods should be classed as "unenumerated manufactured articles," at 20 per cent. The United States general appraisers, at New York, affirm the action of the collector of customs. After quoting authorities to show the similitude of Balata to India-rubber and Gutta-percha, the appraisers state that it is unnecessary for them to decide whether the articles imported bear a closer resemblance to manufactures of India-rubber or Gutta-percha—the duties on which are 30 and 35 per cent., respectively. The tariff law provides: "If any nonenumerated article equally resembles two or more enumerated articles on which different rates of duty are chargeable, there shall be levied on such nonenumerated article the same rate of duty as is chargeable on the article which it resembles, paying the highest rate of duty."

A RUBBER SUBSTITUTE FROM PETROLEUM.

THE Texas newspapers of late have contained references to a company being organized at Beaumont, in that state, for the production of a "remarkably fine substitute for hard rubber" from the petroleum found in that district. The project is fathered by Tom C. Swope, who writes to THE INDIA RUBBER WORLD (March 21): "I regret that it is impossible for me to give you full details in reference to the new substitute, or adulterant, for rubber which the company I am organizing will manufacture, but I believe that in about fifteen days I can give you the information in a satisfactory form." Mr. Swope is secretary and general manager of the Huntley Oil and Refining Co., of Beaumont, Texas, which is capitalized at \$2,500,000. The president of the Huntley company is the Hon. Benton McMillin, of Tennessee, and one of the directors is the Hon. Charles A. Towne, of Minnesota. Reports had already been current that Mr. Towne was interested in a new rubber substitute.

CHICAGO TIRE AND RUBBER CO.

SINCE our last mention of this company [THE INDIA RUBBER WORLD, January 1—page 124], John L. G. Dykes, formerly of the John L. G. Dykes Co., has become associated with it, now filling the office of president, with Charles A. Sandberg secretary and treasurer. Thomas W. Morris, who was with Morgan & Wright for several years, is superintendent. The factory and offices are at Nos. 329-331 West Kinzie street, Chicago. They occupy a two story brick building, near the factory of Morgan & Wright, with ample engine and boiler capacity for a considerable business. The manufacture of the Dykes rubber heels will be continued by the new company. It is stated that the demand for women's rubber heels is greater than for men's, though the sales for both in 1901 were greater than in the preceding year. The company are also doing a good business in small mold work.

RUBBER GOODS MANUFACTURING CO.

THE directors, at a meeting on March 5, declared the twelfth regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares, out of the company's earnings, payable March 17, to holders of record March 8.—The annual meeting will be held this month, at which time, it is intimated, a favorable report will be made on the past year's business.—The following is a record of trading in the company's shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Feb. 21	1,880	183 $\frac{3}{4}$	17 $\frac{1}{2}$	....	...	...
Week ending Mar. 1	5,740	19	17 $\frac{1}{4}$	550	70 $\frac{1}{2}$	69
Week ending Mar. 8	25,320	20 $\frac{1}{4}$	18	4,500	71 $\frac{1}{2}$	69
Week ending Mar. 15	2,030	19 $\frac{3}{4}$	18	240	70	66 $\frac{5}{8}$
Week ending Mar. 22	14,220	22 $\frac{1}{4}$	19	1,772	74	69 $\frac{7}{8}$

CLIFTON MANUFACTURING CO. (BOSTON.)

THE headquarters of the electrical conduit business of this company is being removed to Buffalo, New York, in order to be nearer to the mills from which the iron pipe is obtained, thus making an important saving in the matter of freight. No change is to be made in their general rubber work, which will be continued at the old location. Another reason for the new departure is that the present factory has become over-crowded on account of the growing demand for the company's insulated conduits. The company have been planning to get to work in the Buffalo factory on the first of this month.

PENNSYLVANIA RUBBER CO.

R. M. HOWISON has accepted the representation of the above company for England and the European continent, with offices at 4, Snow Hill, London. Mr. Howison has had several years of experience in the sale of American rubber goods in the British market, in which he has attained an excellent measure of success.—The company are making good progress with the erection of the new plant at Jeannette, Pennsylvania, referred to in the last INDIA RUBBER WORLD.

INCREASING SALES OF HOT WATER BOTTLES.

THE active head of a large druggists' sundries house in New York, reported to be doing a large trade in hot water bottles, said to a representative of THE INDIA RUBBER WORLD on this subject:

"Yes, it is true that our company is selling a great many hot water bottles. For several years past we have made a specialty of producing hot water bottles in many shapes and designs, as richly and finely made as possible. Our present share of the hot water bottle business is merely the natural result of trying to please the trade year after year. However, we have this season had a much heavier increase than usual, and we believe this is due to the fact that in the beginning of the season we fitted our entire line of hot water bottles with the 'Holdfast' unlosable stopper. The 'Holdfast' stopper is the neatest little thing that has ever been invented. I don't believe that as yet the trade has fully grasped its possibilities, although it is a significant fact that dealers and manufacturers who have taken hold of it have almost immediately reported that they are doing a better business in hot water bottles."

OTTO G. MAYER & CO. (NEW YORK.)

AN involuntary petition in bankruptcy was filed March 25 against the above firm, shipping and commission merchants, at Nos. 44-48 Cedar street. The petition, in behalf of Albert V. W. Tallman and others, having small claims for commissions and moneys advanced, alleges that the liabilities are

about \$600,000 and the assets probably \$300,000. For some months past William A. De Long, formerly of the crude rubber trade and now deputy water commissioner for New York city, had been liquidating the affairs of the company, at the instance of their largest creditors. The firm's export trade has been largely with South America and South Africa, and they imported crude rubber, spices, etc. Among the causes of their financial difficulties have been the decline in the price of rubber, and outside investments on which nothing can now be realized. The business was established in 1835 by Josiah Jex. He retired in 1872, turning the business over to his nephew, William Jex, who formed a partnership with William A. De Long as William Jex & Co., which was dissolved in 1886. De Long, Mayer & Co. succeeded, and in 1889 Mr. De Long retired, Mr. Jex returning to the firm, which became O. G. Mayer & Co. William Jex died in 1896, and in 1899 Louis Engelhorn became a partner. Mr. Mayer is now in Europe, under treatment for his eyes.

NEW INCORPORATIONS.

ON March 14 identical articles of incorporation were filed with the secretary of state of New Jersey, at Trenton, of the following new companies:

German-American Rubber Shoe Co.
Anglo-American Rubber Shoe Co.
Belgian-American Rubber Shoe Co.
Franco-American Rubber Shoe Co.
International Rubber Shoe Co.

In each case the incorporators named were Frank N. White, Alfred George Brown, and Walter H. Bond, and the registered offices, No. 525 Main street, East Orange, New Jersey, and the agent in that state, the New Jersey Registration and Trust Co. The authorized capital in each case is \$100,000. The expressed objects of these companies are to acquire interests in patents relating to manufactures of rubber, including rubber boots and shoes, and machinery and processes involved in such manufacture, and to use or turn to account such patent rights, by working under them or otherwise. Their object is primarily to hold patents in Germany, Great Britain, Belgium, France, and Russia. The right to acquire and hold Russian patents is held by the International Rubber Shoe Co., so named because under the laws of that country the term Russia or Russian could not be used in connection with this incorporation. These patents are controlled in the United States by the Atlantic Rubber Shoe Co., incorporated for \$10,000,000 under the laws of New Jersey December 18. The five new corporations are syndicated and organized under the corporation laws of New Jersey, which correspond closely with the Public Companies acts of Great Britain.

=Bourn Rubber Co. (Providence, Rhode Island), March 1, under Rhode Island laws, to carry on the business of manufacturing rubber boots and shoes of Augustus O. Bourn; capital, \$75,000. S. W. Bourn president; Augustus O. Bourn, Jr., vice president; A. O. Bourn, treasurer; H. K. Bedell, secretary.

=The Dyson & Lawshe Rubber Co. (Trenton, New Jersey), March 6, under New Jersey laws; capital, \$50,000. Incorporators: George A. Dyson, Ira M. Lawshe, and John J. Cook. They will continue the business of the firm of Dyson & Lawshe, manufacturers of molded rubber goods for mechanical purposes.

=Rubber Trading Co. (New York city), March 3, under New York laws, to deal in crude rubber; capital, \$5000. Directors: Robert B. Baird, L. H. Baird, G. W. Harris.

=Metropolitan Rubber Co., February 10, under Maine laws, organized at Portland, Maine, to manufacture rubber goods; capital, \$250,000, with \$100 paid in. President, Elgin C. Ver-rill; treasurer, Nathan Clifford. The two gentlemen named

belong to the legal firm of Clifford, Verrill & Clifford, of Portland. Nathan Clifford advises THE INDIA RUBBER WORLD that there is nothing in regard to the new company that they desire to have published now.

=The Franklin Automobile and Vehicle Tire Co., March 21, under New York laws, to make and deal in rubber tires; capital, \$500,000. Directors: Franklin G. Saylor and Carolyn Frost, Franklin, Mass.; Thomas Clark, New York city.

=Safety Horseshoe Co., March 20, under New Jersey laws, to manufacture rubber cushion horseshoes; capital, \$350,000. Incorporators: A. W. Jones, William L. Jones, Joseph Sutton, Robert Fisher, J. F. Tatem. Principal office, Asbury avenue, Ocean City, New Jersey.

TRADE NEWS NOTES.

THE Beacon Falls Rubber Shoe Co. have filed with the secretary of state of Connecticut a certificate of increase of capital from \$200,000 to \$250,000.

=The Fairfield (Conn.) Rubber Co. were reported lately to be working sixteen hours a day. The recent additions to the factory have been completed, the new machinery is now in good working order, and the working force has been increased.

=The Standard Underground Cable Co. (Pittsburgh), one of the insulated wire concerns that is taking a lively interest in the prospect for the construction of a Pacific cable in an American factory, has removed its Boston offices to more commodious quarters in the Converse building, No. 101 Milk street.

=The regular quarterly dividend (No. 130) of \$2 per share, of the Boston Belting Co., is payable in Boston on and after this date.

=The annual shutdown of the factories of the Boston Rubber Shoe Co. began on March 27, to last until April 10.

=The Sterling Rubber Co. (Boston), have removed from No. 200 Summer street to larger and better equipped offices in the Borden building, at No. 157 Summer street. Mr. J. Percy Whipple, proprietor, informs THE INDIA RUBBER WORLD that he will there carry on a general wholesale and retail business in fine rubber clothing, druggists' sundries, and general rubber goods.

=The Merchants' Rubber Co. (Nos. 70-72 Reade street, New York), successors to William Morse & Co., and of which William Morse is president and treasurer, has sent out to the rubber shoe trade a very attractive circular announcing the change in firm style.

=Mr. Alex. P. Mende, whose vacuum driers for crude rubber have been described in THE INDIA RUBBER WORLD, is installing a number of these appliances in American rubber factories, and has also received a number of duplicate orders.

=The suit of Charles A. Place, against the Metropolitan Rubber Co., to recover \$27,000 for services as president for three years, to March 1, 1900, has been transferred from the New York supreme court to the United States circuit court for the southern district of New York.

=The B. F. Goodrich Co. (Akron, Ohio) are reported to have received, through a French automobile firm, an order for a set of solid rubber tires, to equip a machine ordered for the shah of Persia.

=The factories making the "Meyer" and "Jersey" brands of rubber footwear are still running full time on orders. The lasts and styles in these two brands are constantly revised so as to conform with the latest styles.

=The new women's "Oxford" toe recently introduced into the Candee line of rubber shoes is proving very popular with the trade. It is a toe about half way between the "Royal" and "Model" toes, medium in width, and with a moderate swing.

=The I. B. Kleinnert Rubber Co. (New York), the extensive manufacturers of dress shields, are reported to be planning a large addition to their factory at College Point, Long Island. The greater part of their work hitherto has been done in New York city.

=The Bourn Rubber Co. (Providence R. I.), besides having lately become a corporation have added to their regular lines of manufacture that of insulated wire.

=J. H. B. Howell, who was formerly connected with the Home Rubber Co., has accepted the position of Chicago manager of the Joseph Stokes Rubber Co. (Trenton, N. J.) Mr. Howell is at present located in the Western Union building, but expects to locate on or near Lake street, in the heart of the rubber district, by May 1.

=The Hazard Manufacturing Co. (Wilkesbarre, Pennsylvania), who have been making wire rope since 1848, adding later a plant for making electric wires and cables, have become users of India-rubber on an important scale in their insulating department. Their lists embrace a full line of rubber insulated wires, together with lead covered and bare wires, and they make a specialty of rubber insulating tapes.

=The B. F. Goodrich Co. (Akron, Ohio) have acquired from the Hill Sewer Pipe Co., 4.94 acres of land adjoining the manufacturing district of East Akron, and about one mile from their main factory. It is understood that the company have no immediate use for the land, and have not yet determined to what use it may ultimately be put.

=The Barker "Hunting" shoe, sold by the Enterprise Rubber Co. (Boston), is being made quite a feature in various exhibitions of the new and popular sportsmen's shows. All of the sporting goods houses represented at the Boston show, for example, have the shoe on exhibition.

=The Shoe Wholesalers' Association of the United States (until lately the Shoe Jobbers' Association) includes in its plan of organization a "rubber committee," now composed of *Irving R. Fisher*, of Nathaniel Fisher & Co., New York; *W. H. Andrews*, of Dages, Andrews & Co., Columbus, Ohio; *J. W. Craddock*, of Craddock, Terry & Co., Lynchburg, Virginia; and *A. H. Berry*, of A. H. Berry Shoe Co., Portland, Maine.

=C. M. Henderson & Co., the oldest shoe house in Chicago, have been succeeded by the Watson-Plummer Shoe Co., at the same location. The business was established in 1851 and incorporated in 1886. Fred. A. Watson, of the new company, was associated with the Henderson house for twenty-seven years, and J. P. Plummer for a considerable time. The Chicago store will be retained, together with the manufacture of shoes at Dixon, Illinois, in the factory formerly owned by C. H. Fargo & Co. Up to 1895 this house sold more rubber footwear than any other in the same territory. The "Wales Good-year" brands were handled. The new management, however, will sell leather goods exclusively.

=*"Walter A. Zelnicker in St. Louis,"* at No. 408 North Fourth street, is the designation of a house which carries an extensive line of railway, mill, and factory supplies, and has the exclusive agency in that city in this branch for the Diamond Rubber Co. (Akron, Ohio). The Zelnicker house has branches in New Orleans, Chicago, and St. Paul.

=The annual shutdown of the factory of the National India Rubber Co. (Bristol, Rhode Island) began March 29, to continue two weeks, except that the insulated wire department will remain closed only one week.

=The firm of Hayward Brothers (Wakefield, Massachusetts), are said to use 100,000 sets of rubber tires a year, for baby carriages.

=The following members of the rubber trade have been elected directors of the Export Lumber Co. (New York): James B. Ford, treasurer United States Rubber Co.; Lester Leland, treasurer Boston Rubber Shoe Co.; Arthur L. Kelley, president Rubber Goods Manufacturing Co. The Export Lumber Co. was organized in 1878 by Charles R. Flint and Wallace B. Flint, who have retired recently from its board.

=The select council of Harrisburg, Pennsylvania, have confirmed an award by the fire chief of that city of a contract for 4500 feet of "Maltese Cross" carbolized fire hose, made by the Gutta Percha and Rubber Manufacturing Co. (New York), after a competition entered into by eight bidders, covering ten brands and a wide range of prices. This brand of hose, the fire chief states, has been in use by his department for ten years.

=The patents, molds, and stock of the "indurated fiber" vehicle tire invented by A. L. Stevens have been purchased by him from the Auto-Dynamic Co., No. 140 West Thirty-ninth street, New York. Mr. Stevens will continue the business in his own name.

=Frank P. Hayes, lately connected with the vehicle tire department of the New York Belting and Packing Co., Limited, has taken charge of the sale of vehicle tires for the International Automobile and Vehicle Tire Co., with headquarters in New York.

=Town & Brother (Philadelphia) have been made selling agents for the Chicago Electric Hose, their territory being the west and middle and southern states, but excluding New England. They have a new two ply light garden hose in 500 feet lengths, which is proving exceedingly popular.

=Toch Brothers (No. 468 West Broadway, New York) have for a number of years past made a specialty of high grade colors for use in rubber compounding, and, as they are expert chemists, they have been able to turn out colors, for goods that are cured either by heat or by the cold cure, that produce some of the most beautiful results. Their advertisement will be found in another column.

=The rubber store of Towner & Co., Memphis, Tennessee, was damaged by fire and water, on March 14, to the extent, it is reported, of \$5000, which amount is covered by insurance.

=Fire broke out in the cellar of No. 12 North Church street, Baltimore—the building occupied by the Boyd Rubber Co., dealers in mechanical rubber goods—on the night of March 12. The company's damages will be covered by the insurance. The fire caused the breakage of a gas pipe, and five firemen, overcome by the escaping gas, had to be carried out by their comrades.

=A disastrous fire in New York on March 3 had its origin in a shop for the manufacture of small articles in horn, hard rubber, and celluloid, on the second floor of Nos. 210-212 Canal street owned by James Wilkinson. The entire building and two adjoining ones were destroyed; one man was killed and several injured. There was considerable celluloid stored in Wilkinson's shop, which is alleged to have helped to give the fire great headway from the start.

=E. A. Kohut has removed his office from No. 11 Maiden lane to the Nassau-Beekman building, No. 140 Nassau street, New York. In addition to dealing in rubber of every description, he has added lines in glue stock, hair, paper stock, rags, and metals.

=Elston E. Wadbrook, who, for some years past, had been connected with the Crude Rubber Co. in New York, and before that with R. F. Sears & Co., in Pará, has joined the forces of Reimers & Co., and is now at their Boston office, with Mr. C. H. Arnold.

=On May 1, Eugene Arnstein, the well known manufacturer of rubber cements, who for many years has been located at No. 86 West Lake street, Chicago, will occupy a new factory, built expressly for his needs, at the corner of Thirti-fifth street and Shields avenue. The new factory will have a floor space of 75,000 square feet, and will give a manufacturing capacity more than three times as large as the present works. The company are doing so large a business on the Atlantic coast that they have established depots for their stocks in Brockton, Haverhill, Lynn, Boston, Rochester, Philadelphia, and New York. They also carry stocks in Cincinnati and St. Louis.

=M. L. Derrick, a well known New England rubber superintendent, who has latterly been connected with the Boston Woven Hose and Rubber Co. at their Cambridge factory, is now superintendent of the works of Morgan & Wright (Chicago), and is also a director in the company.

=The Raven Mining Co. (Chicago), whose "Kapak" has steadily gained friends among rubber manufacturers, have completed a new plant in North Chicago, where they will be able to turn out large quantities of their goods.

=The McCord Rubber Co. (St. Joseph, Missouri) report that at present the better class of merchants are placing shoe orders and getting the matter off their minds, as even if there be a decline in price, they are covered by guarantees. In their territory all stocks are pretty well sold out, except boots, of which quite a stock was carried over.

=H. A. Middleton, for some time past general superintendent of the Goshen Rubber Co. (Goshen, Indiana), has resigned from that position.

=The B. F. Goodrich Co. (Akron, Ohio), have broken ground for another large addition to their plant, which will be a brick building of mill construction, 350 × 60 feet. They will also add 1500 H. P. to their electric equipment, and install steam turbines. They are, by the way, the first rubber company in the world to adopt this type of power.

=F. Mcfroy, representing the Trenton Rubber Manufacturing Co., is on his way south on a business trip, which will take him first to Mexico and later to California.

=The new pneumatic tire department of the Diamond Rubber Co. (Akron, Ohio) is really a great factory in itself. It consists of a huge five story brick building, 330 × 80 feet wide, of mill construction, and the work is so arranged that each operator has plenty of room. The making up and inspection rooms are on the two middle floors, the press room on the lower floor, and the assembling and store room on the top floor. Although the building was only open for use two weeks ago, it is now crowded with workers, the whole space being given up to bicycle and automobile tires.

=George R. Bidwell, formerly connected in an important way with the bicycle and tire trades, and for some years past collector of customs at the port of New York, retires from that position on this date, and will become managing director of the International Fire Engine Co., which is capitalized at \$5,000,000 and controls six factories.

=Several attachments were placed on the plant of the American Ordnance Co. (Bridgeport, Connecticut), on March 24, including one to satisfy a claim of the Massachusetts National Bank of Boston on an unpaid note of the company for \$15,000, dated January 14, and bearing the indorsement of Charles R. Flint, then president of the company.

=The United States consul at Liège, Belgium—Mr. Alfred A. Winslow—reports that he is cognizant of an opportunity to furnish tools and machinery for an extensive rubber plant in that country, communications for which may be addressed to John Gross, rue Chevanfosse 13, Liège.

The Miller Rubber Manufacturing Co. (Akron, Ohio), who were the pioneers in dipped goods in their vicinity, are adding to their already large plant a brick building, which will give them 30,000 square feet of additional space.

=The Henry A. Gould Co. (New York and Boston) have opened a house in London with a view to transacting an international brokerage business in crude rubber. They will be represented in London by Wallace L. Gough, who for six years represented the former firm of Henry A. Gould & Co. in London. Mr. Gough had previously been engaged in the rubber business in connection with W. R. Grace & Co. and Earle Brothers. Mr. E. A. Hunt has also formed a connection with the Henry A. Gould Co., after having had long experience in handling crude rubber, including six years as buyer for the United States Rubber Co.

=The Diamond Rubber Co. (Akron, Ohio) are on the market with a high class golf ball known as the "King William."

=The Tuscarora Rubber Co. (Beach City, Ohio), at their recent annual meeting, increased their capital stock from \$25,000 to \$50,000. But owing to some dissension that arose in the company, and in order to adjust the same, a receiver has been appointed, who will continue the operation of the plant.

=Mulconroy Co., Incorporated, successors to Latta & Mulconroy Co., (Philadelphia) will carry on the business of selling mechanical rubber goods and mill supplies at the same location—Nos. 1213-1215 Market street. James J. Mulconroy is president, Howard W. Goodall treasurer, and William S. Feeny secretary. They are about to issue an extensive illustrated catalogue, a copy of which will be sent on request.

PERSONAL MENTION.

MR. GEORGE A. WIES, treasurer of the Eureka Fire Hose Co., is at present in Europe on a brief business trip.

=Mr. E. E. Huber of the Eberhard Faber Co. (New York), has just returned from a month's vacation in Florida.

=Mr. E. F. Bickford, manufacturing agent of the Boston Rubber Shoe Co., is now in Italy, his plan being to remain abroad about five months.

=Mr. Lester Leland, vice president of the United States Rubber Co., has been spending the last three weeks at Lakewood, New Jersey.

=Mr. Franklin W. Pitcher, general manager of the Easthampton Rubber Thread Co., has gone to Bermuda, with his wife and family.

=Mr. Horace H. Tyer, president of the Tyer Rubber Co. (Boston), is spending a few weeks in Nassau, Bahama Islands.

=Mr. Walter H. Ballou, president of the Joseph Banigan Rubber Co. (Providence, R. I.), has returned from Nassau, where he had been spending some weeks.

=Mr. W. J. B. Stokes, city treasurer of Trenton, N. J., and having very large interests in the leading rubber mills of that city has just undergone an operation for appendicitis at the German Hospital, in Philadelphia. He is making exceedingly quick and satisfactory recovery, which will be good news to his many friends in the trade.

=Mr. Hans J. W. Clouth, of Cologne, Germany, sailed for home March 8. It is interesting to note that while in the United States Mr. Clouth became an associate member of the New England Rubber Club, the first member, by the way, from across the water.

=Mr. Charles J. Davol, of the Davol Rubber Co. (Providence, R. I.), who is an enthusiastic automobilist, is a member of the membership committee of the Providence Automobile Club, a very flourishing organization.

=Mr. Ohio C. Barber, a large shareholder in the Diamond Rubber Co., has been elected president of the First National Bank of Akron, Ohio.

=Mr. George H. Quincy, selling agent of the Bourn Rubber Co., sailed on March 20 for a vacation in Europe.

=Mr. Henry A. Gould, president of the Henry A. Gould Co. (New York), long engaged in the crude rubber trade, was married in New York on February 27 to Miss Edna F. Ellis, of Philadelphia.

=Mr. and Mrs. J. Herbert Foster, of Meriden, Connecticut, about the middle of the month, started for Mexico, where Mr. Foster will have charge of the management of the Meriden Rubber Planting Corporation.

=Messrs. Samuel P. Colt (president of the United States Rubber Co.) and Charles R. Flint were reelected directors in the American Woolen Co. at the annual meeting of stockholders in Jersey City on March 4.

=Mr. William J. Cable, president of the Cable Rubber Co. (Boston), has just returned from quite an extended trip through the western country.

=Mr. and Mrs. M. J. Herman, of Brockton, Mass., celebrated on March 10 the twenty-fifth anniversary of their wedding. Mr. Herman is the head of the Brockton Scrap Rubber Co.

=Mr. H. D. Warren, president of the Gutta Percha and Rubber Manufacturing Co., of Toronto, Ltd., sailed for Europe on April 1, for several months' rest.

=Mr. Francis Holton, general superintendent of the Rubber Specialty Co. (Akron, Ohio) accompanied by his wife, has gone to Mt. Clemens, Michigan, for a three weeks' rest.

=Mr. Raymond B. Price, superintendent of the Calumet Tire Rubber Co. (Chicago), who has been in Mexico some time recuperating, will return by way of the Pacific coast, spending some little time in California.

=Mr. Walter B. Hardy, president of the Diamond Rubber Co. (Akron, Ohio), is now in Europe on business for the company.

=Mr. Walter E. Piper, assistant superintendent of the Boston Rubber Shoe Co., gave a very interesting address on India-rubber—a description of the crude gum and its manufacture—illustrated by stereopticon views, before the Society of Arts at the Massachusetts Institute of Technology, at Boston, on the evening of March 27. A large and interested audience was present.

A FAILURE AT AKRON.

THE first failure to be recorded in the rubber industry at Akron, Ohio, was the assignment, on March 10, of the Independent Rubber Co., a partnership composed of Charles F. Case, John Evans, and Edgar L. Chines, to W. E. Snyder. They had begun the manufacture of seamless and molded rubber specialties, but without sufficient capital to overcome difficulties which soon confronted them. It is reported that a stock company may be formed to continue their business.

U. S. RUBBER RECLAIMING WORKS.

THE new factory of this company at Buffalo, New York—to be operated by electrical power transmitted from Niagara Falls—is expected to be in operation by June 1. The principal building is 145×95 feet, three stories and basement, with a tower 65 feet high, in the top of which is a large water tank. There are, besides, two single story buildings, respectively 145×120 feet, and 110×92 feet in extent. The General Electrical Co. (Schenectady, New York) have constructed for the new plant what they state to be the largest electric motor ever built for an industrial plant, having 1500 HP. There is to be also an auxiliary motor of 150 HP. A view of the front of the new buildings appears in the advertising pages of this paper.

THE HARDWARE TRUST.

A RUMOR that a \$100,000,000 hardware trust is about to be started has proved quite interesting to manufacturers of mechanical rubber goods, as they sell large amounts of goods to these companies. The opinion of many companies interested, however, is that the market for rubber goods will in no way be disturbed—that each of the great hardware companies will purchase individually as before and that there will be no central purchasing bureau. The companies mentioned as about to amalgamate or already amalgamated are the Supplee Hardware Co. (Philadelphia), Simmons Hardware Co. (St. Louis),

Bigelow & Dows (Boston), Bindley Hardware Co. (Pittsburgh), Hibbard, Spencer & Bartlett (Chicago), and George Worthington & Co., Mackintosh-Huntington Co., Lockwood Taylor Co., J. M. & A. L. Osborne Co. (Cleveland).

CAUMET TIRE RUBBER CO. (CHICAGO)

At the recent annual meeting of stockholders it was voted to increase the capital stock from \$150,000 to \$350,000, to enable them to equip another factory, and add to their business the manufacture of sheet and molded rubber goods. The new factory is already in operation, and the new lines of work are being added as rapidly as the machinery can be set in place.

REVIEW OF THE CRUDE RUBBER MARKET.

QUOTATIONS for Pará sorts are about 1 cent per pound higher than we reported one month ago. A similar advance is to be noted in some grades of Centrals and Africans, others remaining without change. It is estimated that not more than half the unusual accumulations of Pará rubber at New York referred to in this column lately have been disposed of—manufacturers not being disposed to buy beyond current needs, even at low prices, while the market is demoralized. Besides, some holders of this rubber are still waiting for an advance. Manufacturers are active, however, calling for good deliveries from new arrivals, for which they appear willing to pay as much as for the rubber so long in storage here. The excess of receipts at Pará over those for the same period last year, reported in our issue of March 1, has now become greatly lessened. Arrivals in recent years in March have been:

	1900.	1901.	1902.
Tons.....	2450	3115	3923

Pará receipts from March 1 to March 22 this year—the latest information received at New York—had been only 2490 tons, excluding Caucho. This gives total receipts, since July 1, of 21,329 tons, against 20,494 tons to March 31, 1901. The arrivals for the rest of the season are, of course, problematical.

New York quotations on March 31 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	70 @ 71	Tongues.....	43 @ 44
Islands, fine, old....	73 @ 74	Sierra Leone, 1st quality	61 @ 62
Upriver, fine, new....	72 @ 73	Benguella.....	45 @ 46
Upriver, fine, old....	75 @ 76	Cameroon ball.....	44 @ 45
Islands, coarse, new....	46 @ 47	Flake and lumps.....	28 @ 29
Islands, coarse, old....	@	Accra flake.....	16 @ 17
Upriver, coarse, new....	59 @ 60	Accra buttons.....	45 @ 46
Upriver, coarse, old....	@	Accra strips.....	51 @ 52
Caucho (Peruvian) sheet	46 @ 47	Lagos buttons.....	45 @ 46
Caucho (Peruvian) ball	53 @ 54	Lagos strips.....	50 @ 51
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	51 @ 52	Madagascar, black....	@
Guayaquil, strip.....	47 @ 48	EAST INDIAN.	
Nicaragua, scrap....	50 @ 51	Assam.....	54 @ 55
Mangabeira, sheet....	39 @ 40	Borneo.....	33 @ 42

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	4\$450	Upriver, fine.....	5\$100
Islands, coarse	2\$150	Upriver, coarse.....	3\$600

Exchange, 12 5/32d.

Last Manáos advices (March 22):

Upriver, fine.....	4\$900	Upriver, coarse.....	3\$200
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Exchange, 12 3/16d.

NEW YORK RUBBER PRICES FOR FEBRUARY (NEW RUBBER.)

	1902.	1901.	1900.
Upriver, fine.....	72 @ 79	85 1/2 @ 88	104 @ 109
Upriver, coarse.....	60 @ 63	63 @ 66	80 @ 86
Islands, fine.....	69 @ 76	83 @ 85	103 1/2 @ 108
Islands, coarse.....	45 @ 48	45 1/2 @ 48	61 1/2 @ 66
Cametá, coarse.....	48 @ 50	52 1/2 @ 54	64 @ 68

In regard to the financial situation, Albert B. Beers, broker in India-Rubber, No. 58 William street, New York, advises us as follows:

"During March the demand for paper has been fair from out-of-town banks, but city banks have not been doing much in this line. During the early part of the month rates ruled at 4 1/2 @ 5 per cent. for the best rubber names, and 5 @ 6 per cent. for those not so well known, but towards the end of the month rates have been rather firmer, ruling from 5 @ 6 per cent."

THE INDIA RUBBER WORLD is indebted to Messrs. Earle Brothers (New York) and Messrs. Emok, Prüsse & Co. (Pará) for annual summaries of crude India-rubber statistics, published by the two firms.

Para Rubber Statistics (Excluding Caucho).

		NEW YORK.					
		Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.	
Stocks, January 31...	1291	48 =	1339	652	656		
Arrivals, February.....	885	496 =	1381	1083	911		
Aggregating.....	2176	544 =	2720	1735	1567		
Deliveries, February.....	1476	540 =	2016	1040	913		
Stocks, February 28...	700	4 =	704	695	654		

		PARÁ.			ENGLAND.		
		1902.	1901.	1900.	1902.	1901.	1900.
Stocks, January 31...	510	715	1440	1230	1075	450	
Arrivals, February....*	3075	2945	4000	1105	925	824	
Aggregating.....	3585	3660	5440	2335	2000	1274	
Deliveries, February..	2535	3100	3445	725	975	825	
Stocks, Feb. 28 ..	1030	560	1995	1610	1025	449	

	1902.	1901.	1900.
World's supply, February 28.....	5327	4277	5656
Pará receipts, July 1 to February 28.....	18,839	15,863	18,735
Pará receipts of Caucho, same dates ..	1696		
Afloat from Pará to United States, Feb. 28.	1073	1070	834
Afloat from Pará to Europe, February 28....	910	927	1705

[* Receipts of Caucho, 315 tons additional.]

Bordeaux Arrivals for February.

Cassamance.....	kilos	1,600
Rufisque.....		500
Soudan.....		69,000
Conakry.....		5,000
Grand Bassam....		1,000
		77,100

Austria-Hungarian Official Statistics.

		INDIA RUBBER AND GUTTA PERCHA.	
		1900.	1901.
Imports.....	pounds	2,502,280	2,640,000
Exports		20,020	25,080
Net Imports.....		2,482,260	2,614,920

Italian Official Statistics.

INDIA-RUBBER AND GUTTA-PERCHA.

	1901.	1900.
Imports..... pounds	1,504,360	1,402,500
Exports.....	110,660	212,520
Net Imports.....	1,393,700	1,189,980
Imports for 1901: From Great Britain, 914,100 pounds; France, 137,040; Germany, 113,300; Central and South America, 42,020; other countries, 195,140; total, 1,402,500.		

Exports from Singapore.

Year.	Great Britain.	Other Europe.	United States.	Total.
1901..... pounds	7,981,200	3,030,800	1,411,200	12,423,000
1900.....	10,572,933	2,856,533	254,666	13,684,133
1899.....	10,149,566	5,586,800	411,466	16,178,133
1898.....	6,680,666	3,069,466	4,352,533	14,102,666
1897.....	3,967,866	2,307,066	162,800	6,437,733

Year.	Great Britain.	Other Europe.	United States.	Total.
1901..... pounds	852,533	1,715,000	13,985,733	16,533,966
1900.....	2,924,666	778,133	7,755,566	11,458,666
1899.....	336,933	551,866	9,998,266	10,887,066

Year.	Great Britain.	Other Europe.	United States.	Total.
1901..... pounds	361,333	269,333	274,533	905,200
1900.....	480,933	467,200	494,400	1,442,533
1899.....	576,800	740,533	3,327,600	4,837,200

[NOTE.—The exports of Gutta-percha to the United States reported for 1898 are clearly wrong—probably by 4,000,000 pounds—due most likely to the inclusion of Pontianak, the statistics for which were not kept carefully before 1899.]

Liverpool.

WILLIAM WRIGHT & Co. report [March 1] in regard to Pará rubber: "Prices have been gradually declining all month, owing chiefly, we think, to some doubt as to what the bankers at New York were going to do with the stock they hold. It is now reported they intend holding, so that prices may be near the bottom, and it might be to manufacturers' advantage to start buying a little. Prices have declined 3d. per pound, and 3s. has been accepted for Upriver fine spot; only a small business done during the month, closing price 3s. both Islands and Upriver. There has been a good business done for forward delivery; closing prices 3s. March-April; 3s. 0½d. April-May; and 3s. 1d. May-June."

London.

	1902.	1901.	1900.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	134	179	166
{ Assam and Rangoon.....	38	20	*22
{ Other sorts.....	423	646	337
Total.....	595	*845	525
LIVERPOOL { Pará.....	1602	1036	448
{ Other sorts.....	881	1108	944
Total, United Kingdom.....	3078	2989	1917
Total, February 1.....	2674	3129	1848
Total, January 1.....	2794	2901	1855
Total, December 1.....	2525	3061	1789

[* Corrected.]

PRICES PAID DURING FEBRUARY.

	1902.	1901.	1900.
Pará fine, hard.....	3/2½ @ 3/4	3/6¾ @ 3/8½	4/5 @ 4/6½
Do soft.....	2/6½ @ 2/7½	2/7 @ 2/9	3/5½ @ 3/5¾
Negroheads, Islands.....	1/11	2/- @ 2/0½	2/7 @ 2/7½
Do scrappy.....	3/4 @ 3/2	3/8½	No sales.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During March two sales by inscription have been held at Antwerp. The first, of only 34 tons, mostly Kassais, on the 6th instant, was quiet, at nearly unchanged prices. On the 18th instant the more important sale took place. Out of 245 tons, 232 tons

(all Congo sorts) were sold at prices showing an advance of 10 @ 15 centimes, or about 2 per cent. on valuations. Buying was general and competition brisk. The principal lots fetched the following prices:

	Valuation.	Sold.
10 tons Loporé I.....	f 7.20	f 7.50
36 " Upper Congo ball.....	6.75	6 75 @ 6.77½
43 " Uellé strips.....	5 70	6.
20 " Upper Congo small strips.....	6.35	6.27½ @ 6.50
48 " Aruwimi.....	5.85	6.05
10 " Equateur.....	7.10	7.25
11 " Lac Leopold II.....	4 60	4.87½

Arrivals here to the end of February show an increase since January 1 of 240 tons, compared with the same period in 1901, and a decrease of 163 in the quantity sold. Stocks on this date amount to 984 tons.

C. SCHMID & CO.

Antwerp, March 18, 1902.

ANTWERP RUBBER STATISTICS FOR FEBRUARY.

[By courtesy of EMIL GRISAR.]

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Jan 31. <i>Arilos</i>	643,699	648,631	542,098	298,511	91,744
Arrivals February.....	607,115	459,632	884,156	226,031	233,597
Congo sorts.....	587,493	431,425	712,413	202,646	207,612
Other sorts.....	19,822	28,207	171,743	23,385	25,985
Aggregating.....	1,250,814	1,108,263	1,426,254	524,542	325,301
Sales, February.....	265,991	327,163	807,454	274,231	94,549
Stocks, Feb. 28.....	984,820	781,100	618,800	250,311	230,752
Arrivals since Jan. 1.....	1,243,358	1,003,258	1,360,036	511,864	320,934
Congo sorts.....	1,201,169	874,498	1,143,409	458,058	287,058
Other sorts.....	42,189	128,760	216,627	53,806	32,976
Sales since Jan. 1.....	673,247	836,197	1,033,227	524,893	184,645

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Although large speculative purchases were made of Pará and middle sorts during the past week, the condition of the market throughout remains quiet. Sales have been made at the following prices in marks per kilogram:

Mozambique ball:	Massai niggers, mixed.....	5.40 @ 5.50
Finest red.....	Bissao ball, fine.....	4.67 @ 4.75
Fine red.....	Bissao ball, good.....	3.40 @ 3.50
Good.....	Batanga ball, genuine.....	4.10 @ 4.15
Black and reddish.....	Ecuador scrap, fine.....	5.25 @ 5.35
Mixed.....	Bolivian, fine.....	7.10 @ 7.15
Good white.....	Bolivian negroheads.....	5.70 @ 5.75
Massainiggers, fine red.....	Pará fine, hard cure.....	7. @ 7.05

Hamburg, March 11, 1902.

The Accra Rubber Output.

THE exports of India-rubber from the Gold Coast colony, West Africa, according to the customs returns at Accra, for the five years ending December 31, 1901, were as follows:

	1897.	1898.	1899.	1900.	1901.
Pounds.....	4,957,016	5,984,981	5,572,554	3,452,440	1,520,012
Value.....	£419,913	£551,667	£555,731	£328,156	£104,030

A report to THE INDIA RUBBER WORLD from Accra, dated February 17, states: "The great decrease shown in the quantity of rubber exported during 1901 is in some measure attrib-

POSITION OPEN.

SALESMAN.—Wanted, a salesman to introduce and sell a new style of Sheet Packing; also other lines in Mechanical Rubber Goods. One who is acquainted with and can sell the large trade of the whole country. Address G. U. M., care of THE INDIA RUBBER WORLD. [189]

POSITION WANTED.

SALESMAN.—Position wanted by an able and experienced salesman and branch manager on Mechanical Rubber Goods. Address E. H., care of THE INDIA RUBBER WORLD. [188]

utable to the Ashanti rising of the previous year, but the principal reason has been the boom in West African mines, which has led merchants and native buyers to transfer their attention from purchasing rubber to the more lucrative, if less legitimate, industry of buying concessions and placing them on the mining market. I am informed, however, that rubber is once more being brought down in considerable quantities from the interior."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

March 1.—By the steamer *Horatio*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
New York Commercial Co.	196,500	45,300	63,300	36,600=	341,700
A. T. Morse & Co.	124,600	22,600	84,000	3,400=	234,600
Boston Rubber Shoe Co.	13,300	1,400	43,700	28,000=	86,400
United States Rubber Co.	13,200	1,500	45,600	28,000=	88,300
Reimers & Co.	8,600	2,200	16,700	35,500=	63,000
W. H. Crossman & Bro.	12,600	2,700	1,400	.....=	16,700
Robinson & Tallman.	7,700	1,000	1,700	.....=	10,400
William Wright & Co.	.....	.....	13,900	.....=	13,900
L. Hagenaers & Co.	.....	.....	2,300	.....=	2,300
Total.....	376,500	76,700	272,600	131,500=	857,300

March 11.—By the steamer *Polycarp*, from Manáos and Pará:

New York Commercial Co.	531,800	126,100	137,900	3,700=	799,500
A. T. Morse & Co.	132,400	44,100	115,900	2,500=	294,900
Reimers & Co.	130,700	37,500	42,500	49,500=	260,200
Boston Rubber Shoe Co.	43,000	3,700	42,600	6,800=	96,100
United States Rubber Co.	41,900	3,700	40,600	6,800=	93,000
Edmund Reeks & Co.	700	200	400	46,100=	47,400
Lawrence Johnson & Co.	31,400	5,400	2,600	.....=	39,400
William Wright & Co.	.....	.....	8,800	.....=	8,800
L. Hagenaers & Co.	1,300	.....	3,200	.....=	4,500

Total 913,200 220,700 394,500 115,400= 1,643,800

March 24.—By the steamer *Hubert*, from Pará:

New York Commercial Co.	224,600	57,000	136,000	600=	418,200
Reimers & Co.	100,500	17,700	49,500	.....=	173,700
Boston Rubber Shoe Co.	65,200	16,100	39,000	4,300=	124,600
United States Rubber Co.	65,500	17,300	37,200	4,700=	124,700
A. T. Morse & Co.	.....	.....	36,700	600=	37,300
William Wright & Co.	.....	.....	13,900	.....=	13,900
L. Hagenaers & Co.	2,100	.....	1,000	.....=	3,100

Total..... 463,900 108,100 313,300 10,200= 895,500

[NOTE.—The Steamer *Dunstan*, from Pará, is due at New York April 3, having on board 910 tons of Rubber and 130 tons Caucho.

PARA RUBBER VIA EUROPE.

FEB. 21.—By the *Teutonic*=Liverpool:

A. T. Morse & Co. (Caucho)	6,500
William Wright & Co. (Caucho)	3,500

FEB. 25.—By the *Oceanic*=Liverpool:

William Wright & Co. (Coarse)	11,500
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MARCH 17.—By the *Capac*=Mollendo:

New York Commercial Co. (Fine)	2,000
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MARCH 20.—By the *Nomadic*=Liverpool:

Edmund Reeks & Co. (Fine)	2,500
Edmund Reeks & Co. (Coarse)	1,500
Edmund Reeks & Co. (Caucho)	2,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

FEB. 20.—By Pennsylvania RR.=New Orleans:

Edwin B. Strout	4,000
G. Amsinck & Co.	4,000
J. Lawrence	1,500
L. N. Chemedlin & Co.	1,000
R. G. Barthold	200

FEB. 21.—By the *Georgie*=Liverpool:

Lawrence Johnson & Co.	5,000
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FEB. 21.—By the *Monterey*=Mexico:

Graham, Hinekey & Co.	1,200
E. Steiger & Co.	500
American Trading Co.	500
F. Probst & Co.	200
L. N. Chemedlin & Co.	200
H. Marquardt & Co.	2,000

FEB. 25.—By Pennsylvania RR.=New Orleans:

G. Amsinck & Co.	3,000
For Europe	4,000

FEB. 25.—By the *Athos*=Cartagena:

D. A. De Lima & Co.	6,500
Edwin B. Strout	1,500
Andreas & Co.	700
Jimenez & Escobar	200

FEB. 26.—By the *Finance*=Colon:

Hirzel, Feltman & Co.	12,500
A. Santos & Co.	2,800
Isaac Brandon & Bros.	1,500
G. Amsinck & Co.	700
Joseph Hecht & Son	500
Dumarest & Co.	730
W. R. Grace & Co.	600
Lawrence Johnson & Co.	400
Roldan & Van Sickle	200

MARCH 3.—By the *Alleghany*=Port Limon:

Lawrence Johnson & Co.	2,000
H. A. De Lima & Co.	1,500
Kunhardt & Co.	500

MARCH 4.—By *Comus*=New Orleans:

A. T. Morse & Co.	4,000
Eggers & Heinlein	1,800
A. N. Rotholz	1,500

MARCH 25.—By *El Paso*=New Orleans:

A. T. Morse & Co.	6,000
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CENTRALS—Continued.

Eggers & Heinlein	4,000
G. Amsinck & Co.	500

MARCH 8.—By the *Lucania*=Liverpool:

George A. Alden & Co.	5,000
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MARCH 6.—By *El Norte*=New Orleans:

A. T. Morse & Co.	4,000
A. N. Rotholz	2,300
G. Amsinck & Co.	3,500
W. Loaliza & Co.	1,000
E. B. Strout	500

MARCH 7.—By the *Havana*=Mexico:

H. Marquardt & Co.	1,500
F. Probst & Co.	1,000
E. Steiger & Co.	1,000
Harburger & Stock	700
P. Harmony Nephews & Co.	200
For Hamburg	10,000

MARCH 8.—By the *Carib II*=Truxillo:

Eggers & Heinlein	2,900
G. Amsinck & Co.	600
J. W. Wilson & Co.	500
H. W. Peabody & Co.	400

MARCH 13.—By *El Cid*=New Orleans:

Eggers & Heinlein	200
W. Loaliza & Co.	1,500
For Europe	1,000

MARCH 12.—By the *Alene*=Greytown:

G. Amsinck & Co.	3,000
Edwin B. Strout	2,000
D. A. De Lima & Co.	2,500
Jimenez & Escobar	1,400
Livingstone & Co.	700
L. Johnson & Co.	500
Roldan & Van Sickle	400
Kunhardt & Co.	800
Sanper & Co.	500
L. N. Chemedlin & Co.	900

MARCH 13.—By the *Advance*=Colon:

Hirzel, Feltman & Co.	16,500
G. Amsinck & Co.	7,900
Isaac Brandon & Bros.	3,100
American Trading Co.	1,800
Edwin B. Strout	900
Pomares & Cushman	700
R. G. Barthold	300
Lawrence Johnson & Co.	300

MARCH 17.—By the *Matanzas*=Mexico:

H. Marquardt & Co.	4,000
American Trading Co.	1,200
E. Steiger & Co.	700
L. N. Chemedlin & Co.	500

MARCH 17.—By the *Altai*=Port Limon:

G. Amsinck & Co.	2,400
Lawrence Johnson & Co.	1,200
Kunhardt & Co.	700
Jimenez & Escobar	500

MARCH 18.—By the *Alliance*=Colon:

G. Amsinck & Co.	4,000
A. D. Straus & Co.	2,200
Everett, Heaney & Co.	1,500
Eggers & Heinlein	1,600
A. Santos & Co.	1,700
Roldan & Van Sickle	1,500

CENTRALS—Continued.

Dumarest & Co.	1,300
H. Marquardt & Co.	1,200
Hirzel, Feltman & Co.	1,100
Ascensio & Cassio	1,000
Pomares & Cushman	500
W. Loaliza & Co.	300

MARCH 20.—By *El Dia*=New Orleans:

A. T. Morse & Co.	3,000
L. N. Chemedlin & Co.	1,600
Robert B. Baird	1,000
Kunhardt & Co.	1,500
Eggers & Heinlein	900
For Europe	3,500
Jimenez & Escobar	1,500

MARCH 22.—By the *Monterey*=Mexico:

E. Steiger & Co.	1,400
Harburger & Stock	500
H. Marquardt & Co.	300
J. W. Wilson & Co.	500

MARCH 24.—By the *Camoes*=Bahia:

J. H. Rossbach & Bros.	9,500
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MARCH 24.—By the *Comus*=New Orleans:

A. T. Morse & Co.	3,500
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AFRICAN.

FEB. 25.—By the *Palatia*=Hamburg:

Otto Meyer (Boston)	38,500
George A. Alden & Co.	20,000
Reimers & Co.	12,500
A. T. Morse & Co.	1,500

FEB. 25.—By the *Rotterdam*=Rotterdam:

Reimers & Co.	89,000
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FEB. 25.—By the *Oceanic*=Liverpool:

Reimers & Co.	14,700
Otto Meyer (Boston)	15,500
Mark Hydes & Co.	5,000
Joseph Cantor	5,000

FEB. 28.—By the *Pennsylvania*=Hamburg:

A. T. Morse & Co.	11,500
Otto Meyer (Boston)	16,000

MARCH 4.—By the *Vaderland*=Antwerp:

A. T. Morse & Co.	82,000
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MARCH 4.—By the *Bohemian*=Liverpool:

A. T. Morse & Co.	88,000
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MARCH 6.—By the *Majestic*=Liverpool:

Reimers & Co.	11,500
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MARCH 10.—By the *Pretoria*=Hamburg:

A. T. Morse & Co.	14,000
Reimers & Co.	4,000

MARCH 12.—By the *Kensington*=Antwerp:

George A. Alden & Co.	70,000
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MARCH 14.—By the *Germanic*=Liverpool:

George A. Alden & Co.	14,000
Otto Meyer (Boston)	8,000

MARCH 14.—By the *Panama*=Bordeaux:

Reimers & Co.	2,500
R. B. Baird	1,500

AFRICANS—Continued.

MARCH 17.—By the <i>Phœnicia</i> =Hamburg:	
Otto Meyer—Boston	5,000
MARCH 17.—By the <i>Georgian</i> =Liverpool:	
A. T. Morse & Co.	24,000
MARCH 18.—By the <i>Minneapolis</i> =London:	
A. T. Morse & Co.	45,000
MARCH 20.—By the <i>Haverford</i> =Antwerp:	
A. T. Morse & Co.	11,500
MARCH 22.—By the <i>Nomadie</i> =Liverpool:	
George A. Alden & Co.	27,000
Otto Meyer	25,000
Reimers & Co.	57,500
MARCH 20.—By the <i>Tentonic</i> =Liverpool:	
George A. Alden & Co.	27,000
MARCH 22.—By the <i>Campana</i> =Liverpool:	
Robinson & Tallman	9,000
Reimers & Co.	8,500

EAST INDIAN.

FEB. 24.—By the <i>St. Louis</i> =Southampton:	
Reimers & Co.	20,000
MARCH 3.—By the <i>Athens</i> =Singapore:	
Reimers & Co.	11,500
MARCH 17.—By the <i>Oronsay</i> =Singapore:	
William Wright & Co.	22,500
MARCH 18.—By the <i>Asama</i> =Singapore:	
Otto Meyer (Boston)	20,000
MARCH 22.—By the <i>Afridi</i> =Singapore:	
William Wright & Co.	7,000
PONTIANAK.	
MARCH 1.—By the <i>Lemore</i> =Singapore:	
R. Brans & Co.	80,000
MARCH 3.—By the <i>Athens</i> =Singapore:	
D. P. Cruikshank	430,000

EAST INDIANS—Continued.

Reimers & Co.	170,000
Robinson & Tallman	55,000 655,000
MARCH 17.—By the <i>Oronsay</i> =Singapore:	
Reimers & Co.	450,000
William Wright & Co.	100,000
Robert Brans & Co.	185,000
George A. Alden & Co.	155,000 1190,000
MARCH 17.—By the <i>Asama</i> =Singapore:	
George A. Alden & Co.	130,000
Reimers & Co.	100,000
D. P. Cruikshank	100,000
R. Brans & Co.	65,000
For Boston	200,000
Robinson & Tallman	55,000 650,000
MARCH 18.—By the <i>Calburga</i> =Singapore:	
R. Brans & Co.	112,000
MARCH 22.—By the <i>Afridi</i> =Singapore:	
William Wright & Co.	100,000
George A. Alden & Co.	175,000
D. P. Cruikshank	115,000
R. Brans & Co.	125,000 515,000

GUTTA-PERCHA AND BALATA.

MARCH 3.—By the <i>Umbria</i> =Liverpool:	
Robinson & Tallman	7,000
MARCH 4.—By the <i>Minchaha</i> =London:	
Spaulding Mfg. Co.	6,500
MARCH 17.—By the <i>Phœnicia</i> =Hamburg:	
Robert Soltan & Co.	11,500
Sbrader & Ehlers	1,000 12,500
MARCH 17.—By the <i>Acara</i> =Singapore:	
Pierre F. Betis.	20,000
BALATA.	
MARCH 1.—By the <i>Carthaginian</i> =Glasgow:	
Earle Brothers	2,000
MARCH 14.—By the <i>Maracas</i> =Trinidad:	
Middleton & Co.	2,000
George A. Alden & Co.	1,500 3,500

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—FEBRUARY.

Imports:	POUNDS.	VALUE
India-rubber	3,200,250	\$1,533,562
Gutta-percha	13,250	5,654
Gutta-jelutong (Pontianak)	829,194	16,213
Total	3,742,703	\$1,555,429
Exports:		
India-rubber	113,358	\$68,062
Reclaimed rubber	84,855	10,285
Rubber Scrap Imported	562,214	\$39,577

BOSTON ARRIVALS.

	POUNDS.	
FEB. 3.—By the <i>Sylvania</i> =Liverpool:		
Reimers & Co.—African	11,297	
George A. Alden & Co.—African	4,359	15,656
FEB. 10.—By the <i>Sagamore</i> =Liverpool:		
Otto Meyer—African		2,276
FEB. 11.—By the <i>Arceadia</i> =Hamburg:		
Otto Meyer—African		27,180
FEB. 21.—By the <i>Caledonian</i> =London:		
George A. Alden & Co.—Balata		12,062
FEB. 25.—By the <i>Abessinia</i> =Hamburg:		
Otto Meyer—African		7,055
Total		64,229
[Value, \$24,214]		
GUTTA-PERCHA.		
FEB. 15.—By the <i>Arceadia</i> =Hamburg:		
C. H. Arnold		2,068
FEB. 25.—By the <i>Abessinia</i> =Hamburg:		
To order		10,051
Total		12,119

FEBRUARY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Chok, Prusse & Co.	3,910	680	19,931	—	24,521	30,514	3,974	17,562	39,470	91,520	116,041
Frank da Costa & Co.	87,404	12,292	241,284	300	341,280	60,258	8,666	318	—	69,242	410,522
Adelbert H. Alden	334,798	77,769	115,734	2,211	530,512	22,780	4,710	10,540	—	38,030	568,542
Kanthack & Co.	—	—	—	—	—	3,230	295	3,019	—	6,544	6,544
Neale & Staats	—	—	26,880	—	26,880	72,537	11,167	6,412	4,080	94,196	121,076
Denis Crouan & Co.	—	—	26,834	—	26,834	19,108	4,157	12,292	—	35,557	62,391
Pires, Teixeira & Co.	630	—	1,534	—	2,214	2,863	—	489	—	3,352	5,566
Sundry Small Shippers	—	—	—	—	—	1,733	205	3,709	—	5,647	5,647
Direct from Manaos	452,738	112,001	138,803	173,180	876,722	363,604	122,138	103,521	78,795	668,058	1,544,780
Total for February	879,486	202,742	571,050	175,691	1,828,963	576,627	155,312	157,862	122,345	1,012,146	2,841,109
Total for July-January	3,764,449	972,928	2,352,753	351,024	7,441,154	5,925,330	1,068,657	1,517,941	1,022,153	9,534,090	16,975,544
TOTAL, CROP YEAR	4,643,929	1,175,370	2,923,803	527,315	9,270,417	6,501,966	1,223,969	1,675,803	1,144,498	10,546,236	19,816,653

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1902	6,273,930	172,106	6,101,833	January, 1902	6,942,268	2,965,200	3,977,068
January, 1901	4,448,785	364,742	4,084,785	January, 1901	5,819,856	2,674,672	3,145,184
January, 1900	5,528,830	268,225	5,260,605	January, 1900	4,532,976	2,905,616	1,627,360
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1902	2,581,920	1,056,000	1,525,920	January, 1902	205,480	13,640	191,840
January, 1901	2,256,760	400,180	1,856,580	January, 1901	154,660	43,120	111,540
January, 1900	2,885,080	1,410,860	1,474,220	January, 1900	157,300	—	—

Note.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian figures include Gutta-percha.



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THE PRICES OF RUBBER GOODS.

IT is difficult for some purchasers of rubber goods to appreciate that the decline in the price of Pará rubber does not warrant manufacturers in at once reducing the prices of manufactured goods of all sorts. At the same time, to the unprejudiced onlooker the reasons are very evident. In the first place, granting that the price of Pará went to \$1.10 or thereabouts and now that it has dropped many cents, manufactured goods did not go up to fit the maximum price, but were sold on a basis of the lower cost, which is close to what rubber is quoted at to-day. Nor, as pointed out before, does Pará rubber alone fix the price of manufactured goods. With the millions of pounds of Centrals and Africans used—rubbers, by the way, in which there was little speculation and which still rule high—there enters an important factor in price fixing that is not generally understood by the purchaser. Then, too, when a survey of the present market for other supplies shows an advance of 40 to 50 per cent. in cotton, of 50 to 60 per cent. in chemicals, and higher labor costs, one would feel like advising rubber manufacturers to raise prices rather than lower them.

SPECULATION AND INDUSTRY.

WHILE most of the important German rubber factories are owned by "companies," whose shares are traded in on the börses, the Harburg Rubber Comb Co., one of the oldest on the list, is still in a "firm," of which the present proprietor is Senator Dr. Heinrich Traun—a descendant of the founder of the business. To an American who visited him a year or two ago, Dr. Traun said that a field existed for largely extending the production of his factories, and that by converting the business into a "company" the necessary capital could easily be obtained, but he preferred to retain control, in order to be able to leave the factories to his sons, who are now associated with him in this management.

There is nothing more elusive than the "control" of a factory which once passes into the hands of a corporation not of the "close" character—one formed by members of a family, or in which one person owns a majority of the shares. A better illustration is not needed than in the case of the rubber shoe factories which, originally each controlled by one man, or by a small group of owners, were combined under the United States Rubber Co. To-day most of those who had built up the various factories and made them profitable have disappeared from the board of directors, and the ownership has passed to 4352 stockholders (according to a late report), the greater number of whom know nothing about making or selling rubber shoes. As for the "control," that is now being contested for, and nobody knows who may have the choosing of the board of directors at the meeting twenty days hence. Not much opportunity for a business to pass from father to son under conditions like these.

Mr. J. Pierpont Morgan, the New York financier, in testifying lately in a public inquiry into the nature of the

Northern Securities Co., capitalized at \$400,000,000, denied in detail that any of the objects were had in view which had been ascribed to it in the public mind. The real ownership of the railroads involved, he said, had not been changed, and the roads which formerly had been competing for business were still competitors. Then why the new corporation? In order that the owners of property might do with it what they pleased; in other words, they had tried, through "community of interest," to get up a company so big that it could not be bought up by unfriendly interests while the owners were asleep, or one was off on a vacation. There are some men who want to own railroad property and make money by its management, without waking up to find that it has escaped from their grasp, as happened lately with the Louisville and Nashville road.

There was a time when nobody in New York thought of buying railroad shares as an investment, but only for speculation. The first Cornelius Vanderbilt led the departure from this idea, and the fortune he founded is still largely in "rails." The Vanderbilt system of roads has expanded, however, admitting other interests, until the whole family probably does not own more than 10 per cent. of the New York Central shares, instead of a majority, as held by the founder of the family. But his methods of management, continued by his successors—rendering a public service, instead of speculation in stocks, as a source of profit—have so commended themselves to the shareholders that the Vanderbilts still remain in control practically as if they owned the road.

Thus far the speculative interest has been rampant in industrial consolidation. The possibility of making millions by trading in shares has diverted attention from the slower method of making profits from the manufacture and sale of goods, with the result that some good properties have been endangered. But the public is obliged to have manufactured goods, just as it must have means of travel, and ultimately industrial securities—in those lines in which there is a sound basis for consolidation—may be expected to be removed from the speculative market to the same extent as in the case of the railroad system above referred to.

It is likely that large manufacturing corporations are to continue, for reasons akin to those which have brought great railroad systems into existence. And these cannot be managed by one man as practical head of the factory, of the selling department, and of the financial management. There must be numerous departments, under capable heads. There must be a genius in financial affairs no less than an expert in the position of factory superintendent. But that genius will not find his vocation among "bulls" and "bears"; it will not be part of his business to make profits at the expense of the public apart from supplying the public with wares for consumption at prices which will assure dividends to the owners of the factory. Just now is apparent the entrance into rubber affairs, in an attempt to control, of a spectacular figure in the speculative world, whose first object, of course, will be to realize on investments made for speculative reasons. Under such an influence the industry will hardly make any marked prog-

ress. But industrial consolidation is yet new, while time is long, affording many opportunities for benefiting from experience, and the conditions of the moment are not necessarily permanent.

Fortunately, there is still room, in rubber, at least, for "the little man." There is room for him to expand into the large manufacturer. And he may hope to leave his factory to another generation if his plans are laid well. And these opportunities are by no means lessened by the control of the great establishments by professional speculators.

THE OPPRESSED RUBBER HUNTERS.

IT may afford the king of Belgium, who has been much censured on account of alleged cruelties practised by the overseers of the native rubber hunters in his dominions on the Congo, some satisfaction to reflect that perhaps not all his accusers are clean handed. No doubt Germans, for instance, have joined in the cry against outrages in the Congo rubber region. Now it appears that the complaints of the friends of the oppressed rubber hunter extend also to certain practices in Kamerun, which is a German possession in Africa. In view of this, his Majesty of the Belgians might ask if he is any worse than Kaiser Wilhelm.

To tell the truth, and not to try to fix the blame for any particular cruelty, it is probable that the lot of the native rubber hunter is not a happy one in any region where circumstances have made him the slave of the white man. It must be noted that nowhere does indian or negro or jungleman fall to gathering rubber of his own accord. The work is not tempting to the wild man of any forest; nor are its rewards attractive. It is only when men of an avowedly more civilized type penetrate the rubber wilds and, by fair means or foul, place the natives in their power, that the latter ever show any interest in this gum, the uses of which are to them a mystery.

There are missionaries even in parts of South America who tell stories of the oppressive slavery of *seringueros* that would make it appear that there is room for reform on this side of the Atlantic no less than on the other. And as for England—whose newspapers have been particularly impressed with the atrocities of Belgian agents—there probably has been no greater case of demoralization of an ignorant native people than has been wrought in West Africa by her subjects by the barter of rum for rubber, this being the commodity which most readily tempts the black man to supply the traders' wants. But the whole subject, no matter how shocking the conditions may be, is too broad for any one man or any nation to feel responsible. The condition of the rubber hunter will hardly be an ideal one until human nature has become so changed that, in the contact of the races, the superior will strive always to give the advantage to the inferior.

In passing, it may be mentioned that in the French Congo of late the natives, in certain sections, have resisted the agents of the trading companies—whether on account of their dislike of rubber hunting or not, does not appear

—so vigorously that such of the white men as survived have fled the country. If this news should ever reach the Congo Free State or certain Amazonian regions, it might lead to a decided change in the attitude of the lords of the forest to the rubber industry.

SOMETHING THAT INTERESTS NEARLY THE WHOLE of the rubber manufacturing trade is the present exceedingly high price of cotton which, by the way, will in a measure offset the lower prices of some other raw materials. The amount of cotton fabric used in almost all lines of rubber manufacture is something that is rarely appreciated by either wholesalers or retailers who handle such products. If, however, they would take pains to examine their stocks of hose, of belting, packing, footwear, and 80 per cent. of the goods in nearly all other rubber lines, they would see how important an ingredient the cotton fabric is. This being the case, it is only fair to the manufacturers that the unusually high price of cotton should be taken into account in the price making of cotton and rubber products.

THE STATISTICS OF THE RUBBER INDUSTRY, as shown by the United States census of 1900, have now been made public for the states of Rhode Island, Connecticut, New Jersey, and Ohio, in a form which permits of a comparison of the gross value of products for 1890 and 1900, with the exception of the single item of rubber boots and shoes produced in New Jersey. The total for the former year was \$7,727,880, and for the latter year, \$49,386,482—an increase of nearly seven fold. There are yet to be published the reports of the important rubber industry of Massachusetts and New York, besides six other states in which rubber factories existed during the last census year. It appears probable that when the census totals are made known, the showing of increase made by the rubber industry will be as great or greater than in any other manufacturing interest in the country.

THE NUMBER OF PAIRS OF RUBBER SHOES exported from the United States during the first three quarters of the current fiscal year reached 2,319,714. During the decade beginning with 1890 the average per year was only 316,976 pairs. The careful and systematic efforts which have been made to build up the business to its present volume are commended to the consideration of other branches of the rubber industry.

IN CASE OF ANY DIFFICULTY in understanding how the rubber shoe manufacturers can make any money in view of the alleged "price war," one might recall the information imparted to the old lady to whom the country merchant was offering his wares at less than cost.

"I don't see how you can afford it," said she.
"It is because we sell so many goods, madam."

IT IS HARDLY SURPRISING, in view of the successful use of rubber in so many forms of sporting goods, that there should be attempts to make rubber a "foot ball of speculation" in Wall street.

CUBA—Writing in *The Independent* on "The Future of Cuba," the president elect of that republic, Señor Tomas Estrada Palma, says: "As for rubber, there are some Caoutchouc trees growing in Cuba, chiefly on soil that has no other use. But in the province of Havana Cubans are already establishing nurseries of young trees, and the people are buying them extensively."

AMERICAN INTEREST IN THE CONGO.

THE Congo and Sangha Development Co. was incorporated April 5, under New Jersey laws, to deal in India-rubber, ivory, and other African products; capital, \$3,000,000; incorporators: Howard Smith, Rufus P. Edson, and Frank Smith. The company will be organized under its charter within a few days. The purpose of the company is to acquire and work the concession of the Société de la Sangha Équatoriale, formed in Paris in 1899 with 1,000,000 francs capital, their location being in the French Congo, on the Sangha river at its confluence with the Congo. The important trading town Bonga, on the north side of the Congo, is the shipping point for the concession. Considerable rubber has been exported by this company to Antwerp, where it is sold under the name "Equateur," bringing prices corresponding to what is paid for Lopori. The negotiations in America have been made by H. A. Darnell and James W. S. Langerman, who purpose, after completing the organization of the new company, to introduce colored labor from the United States on a large scale, as better suited for rubber gathering than the natives.

SYNTHETIC HARD RUBBER.

A SAMPLE of a new product has been sent to THE INDIA RUBBER WORLD, accompanied by the following descriptive notes by the inventor.

THIS term applies to a new product which, when combined with sulphur and exposed to heat at about 300°F., can be vulcanized independently of India-rubber or Gutta-percha, or in combination with them. Under the process by which this material is produced, almost any vegetable substance, or that of vegetable origin, can be rendered vulcanizable, and converted into a hard vulcanite, by heat, though the vulcanizing process differs somewhat from the ordinary form of treating rubber.

Some of the substances which have been tested by this process are grass, common woods, oils, cotton, pine pitch, pine tar gums, paraffine (a large per cent.), paper, etc. These materials are each first brought to a plastic state, when they can be tempered to any consistency desired and rolled into sheets, or molded into any form.

A very good result has been obtained by converting the twigs of the rubber tree—the entire wood—into hard rubber. The leaf of the rubber tree can also be converted into this new product. Of course all materials do not yield the same quality of hard rubber, but many kinds of vegetable substances give similar results.

The originator of this process does not call the new product a "substitute," for the reason that none of the so called rubber substitutes can be vulcanized independently of India-rubber or Gutta-percha.

The cost of producing this article is far below that of ordinary hard rubber, and while its quality is not fully equal to that of good rubber for all uses, yet for many purposes it will fully fill the requirements.

This new hard rubber has been produced by persistent study for years, and by numerous experiments and tests. The most favorable words yet spoken for its qualities are from rubber manufacturers, their chemists, and other rubber experts, who have seen the finished products, and until they have tested the material by heat, refused to allow that it contained no ordinary rubber. This product will be placed upon the market in form of manufactured goods, and also in blanks for numerous purposes."

RUBBER GOODS MANUFACTURING COMPANY.

THE third annual meeting of the stockholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, was held on April 10, at the registered offices of the company in that state, No. 60 Grand street, Jersey City. The annual report of the president, Arthur L. Kelley, presented in printed form and read at the meeting, follows in full:

"The third business year of the company ended December 31, 1901. In conformity with the by laws, I have the honor to report as follows:

"Your special attention is called to the auditors' reports, presented herewith, which show the gratifying increase in the sales of our allied companies of 7½ per cent. over the previous year; and notwithstanding a decrease in the bicycle tire business, a profit which is highly satisfactory. The large variety of goods manufactured by the allied companies, which practically includes everything except boots and shoes, insures a good business and reasonable profit when trade is in a normal condition.

"Business in all departments has been excellent; the falling off in demand for bicycle tires being more than made good by the increased demand for automobile and carriage tires, and general mechanical rubber goods. The business of two of the tire plants belonging to the company has been consolidated in Hartford, where we have a factory fully equipped to take care of the increased production without a material increase in the overhead expense. The physical condition of all the properties has been maintained, and all are in excellent shape.

"The following dividends have been paid during the year:

Two Common.....	\$338,834
Four Preferred.....	563,598

Total\$902,432

"On the following pages you will find audited reports showing: (1) Balance sheet showing condition of your company as of December 31, 1901; (2) Receipts and disbursements of the Rubber Goods Manufacturing Co.; (3) Earnings and disbursements of allied companies."

The financial report is fuller in detail than has before been presented to the shareholders in any rubber manufacturing company in this country. It is of interest, for one thing, in that comparative accounts are presented for each of the three years during which the company has been in operation. It will be seen that, besides paying dividends, \$726,000 has been appropriated out of the earnings for additions to plants, and there remain net unapplied earnings, belonging to the Rubber Goods Manufacturing Co., of \$613,663. This would permit the payment of 7 per cent. on the preferred stock of the company throughout 1902 (amounting to \$563,598), and still leave a balance, even if no profit should be made this year. The showing would have been less favorable, however, if four common stock dividends had been paid last year, instead of only two—which

fact confirms the judgment of the board in voting to suspend the payment of common stock dividends until the company should have accumulated funds to protect it against any possible emergency. It will be seen, too, that in estimating gross profits, the cost of repairs and maintenance plants has first been deducted, while a substantial amount has been written off for depreciation.

The item in the list of assets—

Treasury stock at cost.....\$294,443.60

relates to certain shares of the preferred stock of the company issued to the American Bicycle Co. in part payment for the Hartford Rubber Works and other tire factories, and which the Rubber Goods Manufacturing Co. agreed to redeem and did redeem within a certain period. These shares are carried on the books of the latter company at cost, which sum is diminished from time to time by the amount of dividends earned by said shares. By this means, ultimately, this account will become extinguished.

A change in the constitution of the Rubber Goods board was not unexpected. On April 1 the following circular was sent to the stockholders by a New York firm of bankers and brokers whose connection is close with the so called Keene interests in rubber stocks:

DEAR SIR: There will be a contest at the annual meeting of the Rubber Goods Manufacturing Co., Jersey City, April 10. The management of the company yesterday sent to all stockholders requests for proxies, together with a number of printed documents, setting forth certain changes in the incorporation and by laws which the management proposed, by the use of the proxies, to consummate at the meeting.

Under the amendments proposed by the present directors, the power to elect a full board of directors at each annual meeting would be withdrawn from the stockholders, and in lieu thereof there would be created three different classes of directors; and only one class could be voted for

BALANCE SHEET.

[In the report as presented, all statements referred only to the last business year. But for convenience of comparison, the figures for the previous two years are here included, as shown in the first and second annual reports.]

	ASSETS.		
	Dec. 31, 1901.	Feb. 1, 1901.	Feb. 10, 1900.
Cash.....	\$ 74,323.07	\$425,746.42	\$318,246.72
Mortgage notes (for property sold).....	15,000.00	.....	.....
Accounts and bills receivable	876,856.83	45,585.19	765,589.51
Treasury stock at cost.....	292,443.00	.....	.....
Plants owned	\$110,000.00	.....	.....
Furniture owned.....	856.05	.....	.....
Net earnings of properties less amount received to date.....	.....	1,271,783.77	557,297.04
Investments, Stocks of allied companies.	24,928,646.83	25,141,149.09	22,129,732.28
Total.....	\$26,298,125.78	\$26,884,264.47	\$23,770,865.55
	LIABILITIES.		
	Dec. 31, 1901.	Feb. 1, 1901.	Feb. 10, 1900.
Bills payable (for money borrowed)...	\$ 450,000.00	\$	\$
Accounts payable, to allied companies..	597,326.42	.....	.....
Accounts payable, to others.....	53,657.44	.....	.....
Deposits by companies.....	.....	405,317.33	.....
Preferred stock.....	8,051,400.00	8,051,400.00	7,621,300.00
Common stock	16,941,700.00	16,941,700.00	15,134,000.00
Total.....	\$26,094,083.86	\$25,398,417.33	\$22,755,900.00
SURPLUS.....	\$204,041.92	\$1,485,847.14	\$1,014,965.55

[Owing to a change in the method of presenting these reports, there should be added to the surplus on December 31, 1901, the sum of \$613,663.61—unapplied net earnings of the allied companies as explained on the next page. There should be further added the item of \$726,900.77, "appropriated for additions to plants," also mentioned further on, to show the total amount for the last year, to correspond with the item "Surplus" in the preceding reports—or a total of \$1,643,766.30.]

INCOME AND DISBURSEMENTS.

Income from Dividends declared by allied companies:			
1899.....	\$ 644,624.83		
1900.....	1,301,609.73		
1901.....	1,362,824.00	\$3,309,058.56	
Interest account: Excess of receipts over payments:			
1899.....	\$37,880.11		
1900.....	25,561.80		
	\$64,441.91		
Excess payments over receipts, 1901...	22,556.81	41,885.10	
Total Income.....		\$3,350,943.66	
Expenses paid, 1899.....			
Do 1900.....	\$106,168.66		
Do 1901.....	101,877.86		
Do 1901.....	63,404.04	\$271,450.56	
Charged off—loss on properties that have proved valueless, and on contracts and guarantees.....			
		618,835.93	
Total expenses, etc.....		\$890,286.49	
Net Income.....		\$2,460,657.17	
Dividends paid to December 31, 1901:			
Preferred.....	\$1,445,548.25		
Common.....	811,067.00	2,256,615.25	
Balance of Income.....		\$204,041.92	
EARNINGS OF CONSTITUENT COMPANIES.			
* Gross earnings, 1899	\$1,652,901.09		
Do 1900	2,083,049.75		
Do 1901.....	1,898,964.50	\$5,634,915.34	
Charged for depreciation of plants:			
1899.....	\$ 25,842.85		
1900.....	198,921.78		
1901.....	201,910.78	\$426,675.40	
† Charged off for sinking fund:			
1899.....	\$45,449.05		
1900.....	50,737.99		
1901.....	50,467.99	146,655.03	
Net earnings for three years.....		\$5,061,584.91	
From which has been appropriated for additions to plants		726,000.77	
Leaving a balance of.....		\$4,335,584.14	
Out of which dividends have been declared:			
1899.....	\$ 769,624.83		
1900.....	1,434,693.73		
1901.....	1,469,948.00	3,674,266.56	
Net unapplied earnings.....		\$661,317.58	
Less amount owned by stockholders other than Rubber Goods Manufacturing Co.....		47,653.97	
Net unapplied earnings belonging to the Rubber Goods company.....		\$613,663.61	

Of the above dividends there were paid to other stockholders other than the Rubber Goods Manufacturing Co.:

In 1899.....	\$125,000	
In 1900.....	133,084	
In 1901.....	107,124	\$365,208

[* After deducting cost of repairs and maintenance of plants. † For bonds of New York Belting and Packing Co., Limited, and Mechanical Rubber Co.]

in any one year. Furthermore, the new by laws would vest in the board of directors the power to increase the number of directors at will, so that if even at the end of two years a majority of the stockholders had elected two thirds of a board of directors adverse to the present management, that management could, by increasing the number of directors, nullify the will of the stockholders and perpetuate itself in control. There is further withdrawn from the stockholders all power to change or amend the by laws.

The by laws now provide that the directors cannot sell or mortgage the property or assets of the company, except by consent of the holders of two-thirds of the preferred stock. The directors propose to amend by giving themselves the power to sell or mortgage any or all of the property at their pleasure and without consulting the stockholders.

Upon an examination of the stock lists of the company, we find

that the directors hold very little stock, and are naturally surprised, in view of this fact, that they should want to make such remarkable changes in the by laws of the organization, and thereby perpetuate themselves in the management of the concern.

We have in hand certain comprehensive plans for the betterment of the rubber trade generally, and the business and standing of this company in particular, and we feel justified in saying to you that if we are successful at the annual meeting, both the preferred and common stocks of the Rubber Goods company will greatly enhance and advance in price.

If you have already given a proxy to the management but would prefer to vote with us, you can accomplish this by sending us the enclosed proxy properly signed. Yours very truly, TALBOT J. TAYLOR & CO.
30 Broad street, New York.

The New York Times stated (April 2) that a majority of the board as then constituted were themselves owners of very little stock—"six out of eleven having of record an average of fewer than 25 shares apiece."

The newspapers on the following day quoted William A. Towner, the secretary of the Rubber Goods Manufacturing Co., as saying:

Taylor & Co. have been large stockholders of the company and it has been intended that they should get representation on the board at the annual meeting. The management has had no idea of railroading anything through. The listing committee of the New York Stock Exchange has gone over the whole thing and approved the proposed changes. That doesn't look like any nigger in the fence, does it? Everything that they object to is, I understand, usual in the charters of the big industrial corporations, such as the United States Steel Corporation and others, which were drawn by Francis Lynde Stetson, who is our counsel, and who prepared the proposed amendments. The amendments really propose to take away from the board of directors powers that they have had. The present certificate of incorporation permits the directors 'to transfer or otherwise dispose of any or all of the property or franchises of the corporation' without restriction; but under the amended certificate it will be necessary to gain the consent of two-thirds of the stockholders at a meeting called for the purpose. Under the present certificate it has been practically impossible to use the collateral owned by the company for the purpose of raising loans, as the certificate required the 'consent and approval of the holders of two-thirds of the preferred shares.' Under the amended certificate the directors will be permitted to borrow up to the amount of \$2,000,000 by using collateral of the company. This would release a lot of collateral that has been tied up and could not be availed of by the company.

Conferences are understood to have taken place between the parties in interest, and at a special meeting of the stockholders, on April 10, preceding the regular annual meeting, a resolution disapproving of the proposed amendments to the by laws received a vote of 154,630 shares in favor to 73 shares against.

At the regular meeting a resolution was unanimously adopted, authorizing the directors to borrow from time to time money needed in carrying on the business, not to exceed \$5,000,000, giving as security such assets of the company or the sub companies as might be deemed best.

It was also voted to amend the certificate of incorporation of the company, to provide for the reduction of the capital from \$50,000,000 to \$30,000,000—120,000 shares of 7 per cent. cumulative preferred stock and 180,000 shares of common stock, all of the par value of \$100. It was further provided that no common stock dividends shall be declared until all preferred stock dividends have been paid, with interest at 4 per cent. per annum on arrearages. The amount of stock now outstanding is 80,514 shares of preferred and 169,417 of common—a total of \$24,993,100 par value.

THE NEW DIRECTORATE.

ONLY one ticket was presented for the board of directors

for the ensuing year, and it was elected unanimously, as follows :

RE-ELECTED.

ARTHUR L. KELLEY, Providence, Rhode Island.

President Mechanical Fabric Co.

ALDEN S. SWAN, No. 151 Maiden lane, New York.

President Swan & Finch Co., oils.
President Salisbury and Harney Railway Co.
Vice president The Burnett Co.
Director Mechanical Rubber Co.
Director New York Belting and Packing Co., Limited.
Director Peerless Rubber Manufacturing Co.
Director Newburgh Electric Railway Co.
Director Market and Fulton National Bank.

WILLIAM A. TOWNER, No. 27 William street, New York.

President the G & J Tire Co.
Vice president and secretary New Brunswick Tire Co.
Secretary Single Tube Automobile and Bicycle Tire Co.
Secretary and treasurer American Dunlop Tire Co.
Secretary Peoria Rubber and Manufacturing Co.
Director Hartford Rubber Works Co.
Director Indiana Rubber Co.

ALVAH TROWBRIDGE, No. 25 Broad, New York.

President Registration and Trust Co.
Treasurer New York Mutual Savings and Loan Association.
Treasurer Ocean Breeze Building Lot Association.
Director Bankers' Life Insurance Co.
Director Security Check Co.

HENRY STEERS, No. 147 Avenue D, New York.

President Eleventh Ward Bank.
Director Leather Manufacturers' National Bank.
Director Dubuque and Sioux City Railroad.
Director New York and Boston Dyewood Co.

NEW DIRECTORS.

MIDDLETON S. BURRILL, No. 49 Wall street, New York.

Of Zabriskie, Burrill & Murray, lawyers.
Director United States Rubber Co.

W. R. K. TAYLOR, No. 30 Broad street, New York.

Connected with Talbot J. Taylor & Co. [Brother of T. J. Taylor.]

H. R. WILKENING, No. 30 Broad street, New York.

Clerk of Talbot J. Taylor & Co.

ARTHUR V. WHITMAN, No. 30 Broad street, New York.

Cashier of Talbot J. Taylor & Co.

J. ARCHIBALD MURRAY, No. 49 Wall street, New York.

Of Zabriskie, Burrill & Murray, lawyers.
Vice president South Brooklyn Railway Co.
Director New York and South Brooklyn Ferry and Steam Transportation Co.

JOHN B. MORRIS, No. 30 Broad street, New York.

Clerk of Talbot J. Taylor & Co.
Director Goodson Graphotype Co.
Director Empire Consolidated Land Co.

H. W. TURNBULL, No. 30 Broad street, New York.

Clerk of Talbot J. Taylor & Co.

EUGENE UNDERHILL, No. 31 Nassau street, New York.

Real estate broker.
Trustee Bowery Savings Bank.

EDWARD LAUTERBACH, No. 22 William street, New York.

Of Hoadly, Lauterbach & Johnson, lawyers.
Vice president Manila Anchor Brewing Co.
Vice president Maurice Grau Opera Co.
Director Anchor Tonique Manufacturing Co.
Director Non Intoxicant Beverage Co.
Director Safety Car Heating and Lighting Co.
Director Third Avenue Railroad Co.

JOHN HENRY HAMMOND, No. 30 Broad street.

Lawyer. [Employed by Talbot J. Taylor & Co.]

The directors chosen last year and not reelected were Charles Stewart Smith, Ulysses D. Eddy, Charles H. Dale, George W. Hebard, L. K. McClymonds, G. W. Blanchard, and Charles M. Bull. During the year four vacancies were caused by the resignation of Charles R. Flint, Wallace B. Flint, Fred. W. Morgan, and R. L. Edwards. To fill one of these vacancies William A. Towner had joined the board, and is included among those reelected.

On April 17 the directors, at a meeting in New York, elected the following officers :

President—ARTHUR L. KELLEY.

Vice President—EUGENE UNDERHILL.

Treasurer—ALVAH TROWBRIDGE.

Secretary—WILLIAM A. TOWNER.

With regard to the showing made in the report on the constituent companies, of dividends paid to other stockholders than the Rubber Goods Manufacturing Co., it has been understood that the latter corporation owned 75 per cent. of Morgan

& Wright and the entire capital stocks of the other companies, with the exception of a few shares of the Mechanical Rubber Co. and such other shares as are necessary to qualify directors, on which options are held. The last statement authorized of the companies comprised [May, 1901] was as follows :

The Mechanical Rubber Co. \$4,843,275

Owning the Following Properties.

The Chicago Rubber Works (Chicago, Ill.)
The Cleveland Rubber Co. (Cleveland, Ohio.)
[Both acquired in fee simple by the Mechanical Rubber Co.]
The New York Belting and Packing Co., Limited, (Passaic, N. J., and Sandy Hook, Conn.) Capital outstanding £400,000 (= \$2,130,000)
The Fabric Fire Hose Co. (Warwick, N. Y.) Capital outstanding \$100,000.
The Stoughton Rubber Co. (Stoughton, Mass.) Capital outstanding \$200,000.

Morgan & Wright, Incorporated (Chicago)..... 500,000

The Peerless Rubber Manufacturing Co. (New Durham, N. J.)... 1,000,000

The India Rubber Co. (Akron, Ohio)..... 100,000

The Hartford Rubber Works Co. (Hartford, Conn.)... 200,000

The Indianapolis Rubber Co. (Indianapolis, Ind.)..... 25,000

The American Dunlop Tire Co. (Belleville, N. J.)... 77,300

The New Brunswick Tire Co. (New Brunswick, N. J.)... 250,000

[Occupies property owned in fee by the R. G. Mfg. Co.]
The Sawyer Belting Co. (East Cambridge, Mass.) ... 35,000
[Occupies leased property.]

Total capital outstanding... \$8,030,575

The total sales by the allied companies are reported at \$13,364,090 for 1900, and \$14,348,048 for 1901.

The Boston *News Bureau* stated (April 4) : " In respect to the trouble in the Rubber Goods Manufacturing Co., it may be stated that the matter has nothing to do with the trade, or conditions, or earnings of the company. The trouble is that this company, like many other industrials promoted from the same source, kept its deposit in the wrong place, and when this deposit was found not to be good as cash, it had to be regarded as a loan and collateral secured. It is said that this collateral may eventually make the whole deposit or loan account good."

SOME WANTS OF THE RUBBER TRADE.

[239] FROM New York city : " If you have the address of some manufacturer of silk covered rubber tubings for compressed air apparatus, we would be greatly obliged to you for the same."

[240] From an insulated wire factory : " Can you inform us of any concern in the United States who is in a position to make a fine quality of spread rubber sheet, and furnish it cut in strips, say ½ inch or 1 inch wide ?"

[241] From a rubber clothing manufacturer : " Can you tell me where I can buy powdered charcoal, such as is used for dusting rubber surface clothing ?"

[242] From a rubber factory : " Can you give me the name of any manufacturer of a machine for winding flat wire on hose ?"

[243] " We are large users of rubber mending tissue. We are looking for the lowest prices attainable on this article, on which we can do a business of several thousand dollars annually—either put up a yard in a package or in bulk on rolls."

[244] From Boston : " Will you please inform us who are in the English market, or any foreign market, for rubber mackintosh cuttings ?"

[245] From Ohio : " We have an inquiry from a party who makes a business of climbing chimneys, church spires, and the like, for a pair of rubber gloves or pads with suction cup in the palm of the hand. Where can we get them ?"

BOLIVIA.—The petition for the winding up of the Orton (Bolivia) Rubber Co., Limited, presented before the high courts of justice, London, will come up for a hearing June 10.

THE UNITED STATES RUBBER CO.'S FUNDING NOTES.

THE plan for funding the floating debt of the United States Rubber Co., referred to in the last number of this paper, involves the issue of 5 per cent. coupon notes of a series of \$12,000,000, in denomination of \$5000 each, maturing March 15, 1905, and redeemable at par on any interest payment date. The interest is payable semi-annually, March 15 and September 15, and the principal and interest are payable in gold, without deduction for any tax which the company may be required to pay in respect thereto, under any law of the United States or any state or city government. The issue was taken by the First National Bank and Blair & Co., bankers, of New York city, who offered the notes at 98½ and interest, to yield 5½ per cent. on the investment.

In a letter to the financial institutions named, and which has been published (dated March 27), Samuel P. Colt, president of the United States Rubber Co., states:

"The Company was formed in 1892, beginning operations October 1st of that year, when the subsidiary Companies were producing about one-third of the output of rubber boots and shoes in the country. In 1893 the United States Rubber Co. acquired the capital stock of the Woonsocket Rubber Co. and the Goodyear's India Rubber Glove Manufacturing Co., so that the output was then increased to over one-half of the total. In 1898, by the acquisition of the stock of the Boston Rubber Shoe Co.—the largest of the individual companies—and of the Joseph Banigan Rubber Co., the output was raised to three-fourths of the total, which at the present time is approximately the percentage of output of the United States Rubber Co. and its subsidiary Companies. - - -

"The following statement, as furnished by the auditor of our Company, gives the earnings and disbursements from the organization of the Company to November 30, 1901:

Total Net Earnings.....	\$23,910,550.53
<i>Deduct:</i>	
Amount paid for Interest.....	\$4,048,055.41
Charged off for Depreciation, etc.....	3,082,438.79
Dividends paid.....	14,102,812.01
	<u>21,233,306.21</u>
Balance	\$2,677,244.32

"The charge for interest hereafter will be represented by the interest paid on the new 'Funding Notes.' The 'Funding Notes' are secured by a deposit with the Morton Trust Co., trustee, of notes of the subsidiary Companies aggregating \$12,000,000.

"From the proceeds of the 'Funding Notes,' payment is to be made of the entire floating indebtedness of the United States Rubber Co. and all of the subsidiary Companies, leaving a substantial amount of cash on hand. There is no mortgage debt of any kind of the United States Rubber Co. or of any of the subsidiary Companies. The provisions of the trust instrument securing the 'Funding Notes' forbids the creation of any such debt as long as any of the 'Funding Notes' shall be outstanding. The trust instrument further requires that at no time shall the net quick assets of the United States Rubber Co. and of the Companies in which it is principal stockholder be of less value than \$15,000,000 over and above all indebtedness, except the said 'Funding Notes.' 'Quick Assets' as so used are defined in the trust indenture, and are in addition to the real and fixed properties of the Company and the subsidiary Companies."

Appended to the letter from President Colt is a certificate of

Haskins & Sells, certified public accountants, stating, in regard to the U. S. Rubber Co.:

"That the quick assets, including inventory of raw materials and manufactured goods on hand, exceeded the current liabilities at June 30, 1901, to the extent of over \$8,000,000, and

"That the value of the various plants (sixteen in number) free and clear from encumbrances, based on appraisals which had formerly been made and which we believe to be conservative, is not less than \$12,500,000."

The note issue is secured by a "Collateral Indenture," dated March 15, 1902, between the United States Rubber Co. and the Morton Trust Co. (New York). The document sets forth that the Company is the owner of all the capital stock (excepting directors' qualifying shares) of the eight corporations named below, of which there is now outstanding capital stock to the amount indicated:

American Rubber Co.....	\$1,000,000
Joseph Banigan Rubber Co.....	1,500,000
Woonsocket Rubber Co.....	3,000,000
National India Rubber Co.....	1,200,000
L. Candee & Co.....	600,000
Goodyear's India Rubber Glove Manufacturing Co.....	500,000
Goodyear's Metallic Rubber Shoe Co.....	1,000,000
Lycoming Rubber Co.....	400,000

The United States Rubber Co. owns promissory notes of these several subsidiary companies, which are pledged as security for the collateral notes to be issued under this indenture, in the amounts stated as follows:

American Rubber Co....	\$ 800,000
Joseph Banigan Rubber Co.....	1,300,000
Woonsocket Rubber Co.....	2,800,000
National India Rubber Co.....	1,000,000
L. Candee & Co.....	2,300,000
Goodyear's India Rubber Glove Manufacturing Co.....	1,500,000
Goodyear's Metallic Rubber Shoe Co.....	2,000,000
Lycoming Rubber Co.....	300,000

The funding notes are to be issued as required by the United States Rubber Co., though all shall be equally secured under this indenture, as if issued on March 15, 1902, without priority or distinction by reason of priority in the issue, sale, or negotiation of any note or notes. But before any note shall be issued the Trustee shall cancel any coupon which may then have matured. The amount of the notes issued shall not exceed \$12,000,000, and when any notes shall have been paid, new notes shall not be substituted therefor.

Whenever the Company shall deposit with the Trustee money for the redemption of notes—not less than \$1,000,000 at one time—the Trustee shall advertise the amount available for the purchase of notes at par and accrued interest. In case notes are not presented for redemption to a sufficient amount, the Trustee shall draw by lot notes to the amount of the redemption fund and publicly advertise the numbers of the notes drawn, after which interest upon such notes shall cease. The indenture provides for the proceedings to be taken by the Trustee in behalf of the note holders, in case of any default in payment of interest or principal, in the way of disposing of the notes of the subsidiary Companies pledged under the funding agreement.

The indenture is signed by the United States Rubber Co., by its president, Samuel P. Colt, and attested by the treasurer, James B. Ford, and by the Morton Trust Co., by J. K. Corbiere, its second vice president, in the presence of H. M. Francis, secretary.

"KEENE INTERESTS" SEEK CONTROL.

THE tenth annual meeting of the stockholders of the United States Rubber Co., for the election of directors and for the transaction of any other business which may properly be brought before the meeting, will be held at the office of the company, in New Brunswick, New Jersey, on Tuesday, May 20, at 12 o'clock, noon. The transfer books were closed at 12 M. on April 19 and will reopen at 10 A. M. on May 21. Following the call for proxies, by the management, the letter below was received by the stockholders:

TALBOT J. TAYLOR & CO.,
BANKERS AND BROKERS,
30 Broad street, New York, April 10, 1902.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: As you are doubtless aware, the United States Rubber Co. has been engaged during the past year in a price war with competitive rubber companies, in consequence of which dividends have been suspended on the stocks of your company.

We believe that this state of things should no longer be permitted to continue, and are assured that under proper auspices a working agreement can be devised whereby this ruinous competition among the different rubber companies will cease.

We and our associates are now in control of the Rubber Goods Manufacturing Co., and we confidently believe that if the same interests are put in control of the United States Rubber Co., such a coöperation between the different companies can be arranged as will greatly add to the value of your stock.

If you should desire to vote with us, please send us the enclosed proxy, properly signed and witnessed. Yours very truly,

TALBOT J. TAYLOR & CO.

The proxies read in the names of Talbot J. Taylor and James B. Taylor. Upon the appearance of this letter, the following second communication was issued from the offices of the United States Rubber Co.:

NEW YORK, April 11, 1902.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.—*Gentlemen*: A circular letter has been addressed to the stockholders of the United States Rubber Co. by Messrs. Talbot J. Taylor & Co., of the New York Stock Exchange, asking that proxies be sent to them, in order to put themselves and their associates in control of the United States Rubber Co. in place of the present board of directors.

To avoid any misapprehension as to some points of the circular, the management feels it to be its duty to stockholders to make the following statement:

1. There is no competition between the Rubber Goods Manufacturing Co., to which the circular refers, and the United States Rubber Co. The United States Rubber Co. is interested in the manufacture and sale of rubber boots and shoes, while the Rubber Goods Manufacturing Co. neither makes nor sells boots or shoes, but other rubber goods only.

2. By the unanimous vote of its directors, about a year ago, the United States Rubber Co. reduced prices in order to meet rapidly growing competition in the manufacture of boots and shoes. The result of such reduction has been the abandonment of several companies which at the time were proposed, or which, having been organized, had not started. Three companies then manufacturing rubber boots and shoes have since gone out of the business, and others have curtailed their operations. While this has been the experience of outside companies, the United States Rubber Co. and its subsidiary companies have increased their gross sales of rubber boots and shoes from \$28,550,470.62 for the eleven months ending February 28, 1901, to \$44,855,384.78 for the eleven months ending February 28, 1902, realizing therefrom prices not far from cost.

3. Recently the management of the United States Rubber Co. has funded the entire indebtedness of the company and its subsidiary companies, thus placing them in a thoroughly independent position, and enabling the introduction of economies not possible so long as there was floating indebtedness requiring continuous attention. The fact that this funding could be accomplished during the time which in the circular is

termed a period of "price war," would suggest that strong financial interests have confidence in the present management of the company and its future stability and prosperity.

4. The present board of directors comprises men who during the past half century built up the rubber boot and shoe industry in this country, and have brought to their present state of efficiency the "Boston Rubber Shoe Co.," the "Goodyear's India Rubber Glove Manufacturing Co.," "L. Candee & Co.," and other subsidiary companies of the United States Rubber Co. Very recently, there has been added to the board four directors considered to be satisfactory to all stockholders, including those issuing the circular referred to.

The question therefore, for the stockholders to decide is: Will they support the present board of directors, composed as it is, and permit them to place the company on a solid foundation where it will earn permanently fair returns for its stockholders, or will they undo that which at much expense and sacrifice has already been accomplished in regaining in large part the rubber boot and shoe business of the country, and turn the control of the company over to gentlemen who certainly have had no experience in the rubber business, and whose promise of relief depends upon the formulation of a working agreement, which in their circular is declared with a frankness as unusual as it is dangerous, to be intended to suppress competition? Respectfully,

SAMUEL P. COLT, President.

COSTELLO C. CONVERSE, Vice President.

JAMES B. FORD, Treasurer.

LESTER LELAND, Second Vice President.

From a Boston source the suggestion is made that if the Keene interests succeed in gaining control of the United States Rubber Co., not a director of the company who is identified with the rubber industry will remain on the board. Of the present directors, ten are rubber manufacturers. Then again, the retiring directors would immediately sell their stock for what it would bring, feeling that the business cannot be made a success except on the lines already laid out. "But the most important factor in case of the success of the Keene interests would be that ten of the leading rubber shoe manufacturers of the United States would be out of employment and naturally they would seek to reënter the business with which they have been familiar for years. The result would be an increase in the number of independent plants rather than a restriction of competition. The Keene interests are endeavoring to make it appear that J. P. Morgan & Co. are supporting them in their efforts to get control of the company. Such is not the case."

It is not understood that the United States Rubber Co., or the constituent companies, owe as much as \$12,000,000 in floating debts. The sale of the funding notes, which are reported to have been subscribed for within a few days after being offered, was meant, not only to retire all existing floating indebtedness—such as has existed at times from the organization of the company—but to reduce the rate of interest, and likewise provide for future working capital on more convenient terms than hitherto. The funding notes will not all be issued at once, but as money is needed in the operation of the factories, and will not bear interest before actually issued. It is regarded as probable that the financial interests underwriting this issue will exert their influence in behalf of the present management and policy of the company, in any contest for control at the coming election. Another point of strength for the present management is that the Converse and Ford interests alone, on the board, are said to hold a fourth or more of the company's shares, so that not more than another fourth need be controlled to prevent a change of management. The opposing interest would seem to have, to begin with, a much smaller holding of shares, with the consequent necessity of gaining the adhesion of a much larger voting strength in order to control.

A NEW FIGURE IN THE RUBBER FIELD.

SINCE the newspapers must have a "king of rubber," it would not be surprising if they should now award that title to Mr. James R. Keene, of Wall street, who has become interested to an important extent in the two greatest rubber manufacturing companies in existence. In an entertaining book on the strenuous life in financial New York, about twenty years ago, Henry Clews wrote: "One of the most remarkable up-and-down lives known to Wall street is that of James R. Keene. His rise and fall are both of recent date." This was true enough when written, but merely rising and falling once did not end the notable activity of Mr. Keene. He has since taken part in many daring operations, and has engineered large speculations, embracing at one time or another about every known form of investment, with the result that, while these have not always enriched him, Mr. Keene is not at present a poor man. His introduction to rubber has come rather late, but if his operations in this field should prove as original and as startling as some of his former financial deals, the newspaper men may be pardoned for dubbing him "rubber king."

Mr. Keene was born in England, in 1838, the son of a London merchant who planned for him a liberal education. The father's fortune became impaired, however, and he removed with his family to Shasta county, California, when James was a lad of 14, but not before he had given promise of the energy and ambition that have since influenced his career. The son guarded live stock at an army post until he had earned enough money to buy a miner's outfit, and then became a prospector for gold. He engaged successively in mining, freighting, stock raising, milling, and editing a country newspaper, but without much success at anything. Then he went to Nevada, secured mining interests, which he sold at a profit, went to San Francisco and speculated in mining stocks, making in a few months \$125,000, which he lost more quickly. In the flush of success he married; then came a year of hardship, but he clung to the belief that he had a natural talent for speculation that in time would command success.

One day Mr. Keene became a member of the San Francisco Stock Exchange, in which he speedily grew to be a figure of importance, becoming finally its president. He was "the free lance operator of the mining stock market, who dared to beard the Bonanza kings in their den, and came off victorious." Seeing the great and rapid advance in the stocks of the Comstock mines, he reasoned that what had gone up so high and so fast was bound to come down. Most people on the Pacific coast at that time were not in a mood to reason so soberly, and it required more than ordinary nerve to make the experiment of selling "short." But Mr. Keene had the courage of his convictions, and his onslaughts on the market caused it to topple over, giving him an opportunity to buy stocks on which he later was credited with realizing \$6,000,000 in profits. When the Bank of California failed, Mr. Keene was one of a few wealthy men who came to its assistance with millions, to prevent any loss to its depositors.

About 1877 Mr. Keene's physicians advised him to go to Europe and rest. Passing through New York he looked into Wall street to see how business was done there, and was tempted to put off going to Europe. He tried to "bear" Western Union and a lot of other stocks, but the California methods wouldn't work. Then he bought stocks heavily, the market being demoralized and prices low, and on the return of better times found himself richer by \$9,000,000. "His investments were nearly all in good, reliable property. No dubious acceptances nor rotten railroad items were mixed up with his tangible fortune, which was without parallel in Wall street for its size and rapidity of accumulation." By this time Mr. Keene felt invincible, and he tried to conquer the financial world. He engaged in all kinds of speculation, until his resources were so tied up that he was unable to protect his interests against a "bear" attack, and he soon "had the mortification of seeing the stocks which had been his advance within a few months to a point that would have enabled him to realize \$10,000,000 if

he had been able to hold them." This was the fall chronicled in Mr. Clews's book. But to Mr. Keene it was only a new starting point in life. He again became strong enough to tempt the attacks of combinations, for which he often has proved to be more than a match, and to-day he is a man of large fortune, and continues to impart no little vivacity to Wall street.

Mr. Keene has been described as "the greatest manipulator of stocks that ever lived." He has never sought to become identified with the management of the companies whose stocks he has bought and sold by the hundreds of thousands of shares. His name figures in no lists of company directors. He prefers to work in a different way. J. Pierpont Morgan, for example, can consolidate vast properties and reorganize railway systems and put out new securities by the hundreds

of millions. But marketing securities is a different thing, and Mr. Keene knows how to buy and how to sell stocks as no other man. He takes a stock which he believes to be worth more than it is selling for and he advances it until people are eager to buy it. Mr. Morgan reorganized the Southern Railway Co., but a good market for the securities was not found until Mr. Keene took an interest in them. He had charge of the United States Steel shares, and he developed a market for them such as had never before existed for any stocks.

The failure at one time of Mr. Keene has been mentioned. Edwin Le Fevre writes: "There was a man who was used to the best in the land, lavish by nature, fond of the good things of life, accustomed to the flattery of lesser speculators, loving above everything to back his views in the market with millions, to whom operating in stocks was as the breath of his nostrils, a man proud by instinct, a bundle of nerves, impatient of obstacles—now flat 'broke.' Once so powerful and courted and feared, now unnoticed, unsought, regarded by the Street as an exploded bubble about to join the ranks of the vast army of Wall street failures. What did he do?" He took a small house



JAMES R. KEENE.

in the country, too poor to live in the city, and even in winter walked from the railway station to his home. He was without capital to invest on his own account, but he possessed a talent which was appreciated by capitalists and promoters, and in time, through aiding in the marketing of securities which had hitherto been unsalable, he had laid the foundation of a new fortune.

Standing with a friend in a café Mr. Keene took a look at the tape unwinding from a stock ticker, after which he remarked:

"So long as tapes continue to come out of these machines I shall always be able to make a living."

And doubtless he was right.

The history of the beginning of Mr. Keene's interest in rubber has not been shouted from the house tops. It is not likely that he ever bought rubber stocks with the idea of a permanent investment. There may have seemed to be an opportunity at one time, however, to "manipulate" them at a profit. Before the market became so heavily loaded with "industrial," when United States Rubber was paying 8 per cent. dividends on preferred and something occasionally on common stock, the market price was very low for shares yielding such returns. There has been gossip regarding a "Keene interest" since the retirement of Robert D. Evans from the United States Rubber Co., and rumor had it that a "Keene pool" took Mr. Evans's large holdings at 70 for preferred, with an equal number of common shares as a bonus. Some months later there was great activity in the market for "Rubber," and quotations were made as high as 121 for preferred and 54½ for common stock. Some people inferred that the "pool" profited largely, but "manipulation" of stock sometimes calls for a great deal of buying before there can be much selling, and the fact that the Keene holdings to-day are reported to be nearly double what Mr. Evans ever owned might be taken as evidence that Mr. Keene never wholly "unloaded." The extreme high prices were followed by a heavy slump, the decline continuing until Rubber preferred sold down to 47 and common to 12. Mr. Flint, quoted in the *New York Herald* (December 24, 1901), said:

At one time he [Mr. Keene] helped in a campaign to raise the prices of Rubber stocks, and must have made a great deal of money then. Whether he lost on the decline as much as he made on the rise, I do not know.

But Mr. Evans was not the only one of the early directors in the United States Rubber Co. who withdrew, and, presumably, sold his stock. There was Mr. Banigan, for instance, and there were others. There has never been a dearth of these shares when anybody wanted to buy. Hence, while Mr. Keene may have been instrumental in sending prices to the highest notch, there were not buyers ready to take millions of dollars worth of shares at those prices.

There has also been developed a "Keene interest" in Rubber goods shares, powerful enough to have controlled the recent annual election. It is supposed to have been augmented by the turning over of the shares in that company held by Mr. Flint at the time of his retirement, last winter. But it is said to have been created prior to that time. The story goes: "Mr. Flint, in planning the International Crude Rubber Co., gained the consent of some large capitalists—directors in the Standard Oil Co.—to serve on the board. Likewise some important crude rubber importing interests were disposed to join the movement. The United States Rubber Co. and the Rubber Goods Manufacturing Co., both presumed to be under Mr. Flint's influence, were, it was claimed, to afford an important market for the importing trust, besides which the thirteen

'independent' rubber shoe manufacturers were to be brought into a 'combine' friendly to the whole proposition, and the Rubber Goods company was to take over more factories. This was an attractive proposition—for everybody but the outside manufacturers, who shied at it—and Mr. Keene at that time probably consented to come in 'on the ground floor' by buying shares of both the big manufacturing combinations before their shares should go skyward again. But the whole plan fell through, and now the 'Keene interest' is constrained to take part in the management of the companies as the readiest way to realize on their holdings of stock."

THE LEADER OF THE KEENE FORCES.

TALBOT J. TAYLOR, head of the banking house of Talbot J. Taylor & Co. (New York), and son-in-law of James R. Keene, is the active leader of the forces now seeking control in the rubber industry. Mr. Taylor is rated as one of the strongest of the young men in Wall street, and as a coming figure of importance in the financial world. He already has a position of importance and during four years past has been intrusted with the management of not a few large transactions, not only for Mr. Keene but for J. Pierpont Morgan & Co. In 1892 he severed his connection with the Bank of Baltimore, that city being his home, and organized his present company, with a seat in the New York Stock Exchange. A year later Mr. Taylor removed to New York, leaving the Baltimore end of the business in the hands of a brother, under the style of Robert Taylor & Co. The New York firm is composed of Talbot J. Taylor; his brother, James B. Taylor; and his brother-in-law, Foxhall P. Keene, special partner. In the offices of the firm, No. 30 Broad street, Mr. Keene is understood to make his head-quarters, conducting his market operations through the Taylor firm. Mr. Keene has not been in good health of late, and doubtless Mr. Taylor has taken the initiative in many recent movements attributed to him.

MR. FLINT'S BUSINESS CONNECTIONS.

IN the latest issue of the "Directory of Directors," published in New York, Mr. Charles R. Flint is mentioned as a director in the following corporations:

American Chicle Co.
American Ordinance Co.
American Woolen Co.
Ashland Emery and Corundum Co.
Atlantic Coast Steamship Co.
Audit Co. of New York.
Chanksburg Fuel Co.
Flint & Co.
Georgetown & Western Railroad Co.
International Emery and Corundum Co.
Knickerbocker Trust Co.
Manaos Railway Co.
National and Providence Worsted Mills Co.
National Starch Co.
Pacific Packing and Navigation Co.
Evergreens Cemetery.
United States Casualty Co.

In addition to being a director in the International Emery and Corundum Co., he is also treasurer of that corporation.

AN APPRECIATIVE VISITOR.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Will you be kind enough to say to the rubber trade for me that I appreciate fully the many courtesies extended to me during my visit to the United States? Certainly its business is developed to a very high degree and the openness and liberality of the men who have created it is marvelous. HANS I. W. CLOUTH.

Cologne-Nippes, Germany, April 8, 1902.

THE HARDWARE JOBBERS' COMBINATION.

SINCE the reference, in our last issue, to a projected combination of important hardware jobbing houses, an official statement of the details has been made public through *The Iron Age*, of New York. It is intended to form a corporation under the laws of New Jersey, with \$120,000,000 capital—\$40,000,000 in 6 per cent. cumulative preferred stock and \$80,000,000 common stock. Fifty-two houses, named below, are mentioned as being identified with the movement. It is purposed that the principal officers shall be: *Edward C. Simmons*, founder and late president of the Simmons Hardware Co., of St. Louis, president; *John Bindley*, of the Bindley Hardware Co., of Pittsburgh, vice president and chairman of the finance committee; *Wallace D. Simmons*, present president of the Simmons Hardware Co., and son of E. C. Simmons, chairman of the executive committee. There will be a board of directors of twenty-five or more members, and an executive committee of which the president and vice president will be members.

The general headquarters for buying and selling and transportation of goods will be in St. Louis, where the larger contracts will be placed, but the smaller buying will be done by the local houses. The Eastern headquarters will be in New York city, in charge of Mr. Bindley. This office will have charge of the financing and auditing and insurance of the company, as well as the general direction of all the houses in New England and the middle states, the members of the executive committee resident in the East coöperating with Mr. Bindley.

"The concerns constituting the company," says *The Iron Age*, "will continue, for the present at least, without change, and so far as the public would observe business will run on as before the consolidation. The principle of home rule will be recognized in connection with the local houses, who will make their own selling prices, except so far as this may interfere with the buying department or the expressed wishes of the manufacturers, which it will be the policy of the company to respect. Each house will be held responsible for the results of their business, and if these are not satisfactory the house will be closed up."

The new company hopes to benefit from economies (1) in purchasing on the most favorable terms, in view of the large volume handled; (2) in taking advantage of cash discounts, which is not now done by all the houses in interest; (3) in creating a mutual insurance fund; (4) in the issue of general catalogues, instead of a separate catalogue for each house, as in the past. It is intended to continue the present force of salesmen connected with the various houses, though transfers may be made to prevent salesmen from covering one another's routes. An increased business is anticipated, so that a decrease in the number of salesmen will not be necessary. Large stocks will be carried, and each house will give special attention to its own immediate territory, thus avoiding the evils of attempting to cover sections at a disadvantageous distance.

While the list of houses given herewith represented the membership at the date of the initial announcement, negotiations were in progress with other houses, with a view to forming a connection with a house in every important trade center in the country. It is estimated that the list given embraces about two-thirds of the distributing efficiency of the hardware jobbing trade in the United States. Some of the houses constituting the company have been establishing relations abroad,

and the hope is entertained that the consolidation, through a house in New York, may be able to build up an important export trade.

Editorially, *The Iron Age* does not regard the success of the new movement as assured. "Kept within moderate limits, restrained to the dimensions of a great house among others its peers in everything except size, it will have a fair chance at the business which is to be done through the jobbing trade." But the combination is in danger of becoming too big, and great tact will be necessary to avoid antagonizing manufacturers, on one hand, and retailers, on the other. "There is a legitimate field for the hardware jobbing trade—although it is a diminishing field when compared with the volume of the hardware business as whole—and if a wise and conservative policy is pursued, there is no reason why jobbing houses, both inside the consolidation and outside, should not be successful. If, however, there is in their policy anything which antagonizes the other departments of the trade, which are necessarily more essential and more permanent, it is not difficult to foresee that changes in the methods of distribution, signs of which are already visible may be greatly accelerated."

The firms named in connection with the combination are:

Boston, Mass.—Baldwin, Robbins & Co. Bigelow & Dowse Co. Brown & Wales. Fitz, Dana & Co. Frye, Phipps & Co. Arthur C. Harvey Co. Holder & Herrick. Waite, Ranlette & Co.
New Haven, Conn.—C. S. Mersick & Co.
Portland, Me.—Emery Waterhouse & Co.
Elmira, N. Y.—Barker, Rose & Clinton Co.
Buffalo, N. Y.—Weed & Co.
Albany, N. Y.—Albany Hardware and Iron Co.
Rochester, N. Y.—Matthews & Boucher.
Syracuse, N. Y.—Burhans & Block Co.
Philadelphia, Pa.—Supplee Hardware Co.
Pittsburgh, Pa.—Bindley Hardware Co.
Cleveland, Ohio.—William Bingham Co. McIntosh-Huntington Co. George Worthington Co. Lockwood-Taylor Hardware Co. J. M. & L. A. Osborn Co.
Detroit, Mich.—Standart Brothers. Freeman, Delamater & Co.
Saginaw, Mich.—Morley Brothers.
St. Paul, Minn.—C. W. Hackett Hardware Co.
Minneapolis, Minn.—Janney, Semple, Hill & Co.
Duluth, Minn.—Marshall-Wells Hardware Co.
Indianapolis, Ind.—Van Camp Hardware and Iron Co.
St. Louis, Mo.—Simmons Hardware Co.
Kansas City, Mo.—Richards & Conover Hardware Co.
Denver, Col.—George Tritch Hardware Co.
Helena, Mont.—A. M. Holter Hardware Co.
San Francisco, Cal.—Dunham, Carrigan & Hayden Co. Pacific Hardware and Steel Co.
Los Angeles, Cal.—Harper & Reynolds Co. Union Hardware and Metal Co.
Seattle, Wash.—Seattle Hardware Co.
Nashville, Tenn.—Gray & Dudley Hardware Co. H. G. Lipscomb & Co. A. M. Tenison & Co. Keith, Simmons & Co.
New Orleans, La.—Stauffer, Eshelman & Co.
Birmingham, Ala.—Moore & Handley Hardware Co. May & Thomas Hardware Co. Milner & Kettig Co. Mayberry Hardware Co.
Atlanta, Ga.—King Hardware Co. Beck & Gregg Hardware Co. Dinkins & Davidson.
Savannah, Ga.—Palmer Hardware Co.
Baltimore, Md.—Carlin & Fulton.

The new movement is strongly criticised by not a few jobbing firms whose views are presented in *The Iron Age*, one member of the trade in western New York expressing himself as follows:

"The proposed jobbers' consolidation is chiefly composed of (1) the parties who expect to make a nice sum in its promoting; (2) the parties who expect to sell out with a bonus; (3) the parties who wish to sell and get out of business. That a very large jobbing house can do business for a less percentage

of expense than a well conducted smaller house is yet to be elucidated. The ratio of expense to the amount of business done, the advantages of buying extra large quantities of hardware by the consolidated interest over the purchases made by the legitimate hardware jobber, are slight, if any. There is nothing in the pool that has any attraction for the manufacturer of hardware. To a greater or less extent each locality has its own personality in regard to goods, as well as persons, and the buyer who attempts to look after the wants of all sections of this country, even on limited lines of goods, will need in each jobbing center experienced and well paid help. Other jobbing houses in hardware will spring into existence, competition will be more sharp and all the travelers that solicited business for the various jobbers will be used and needed by the consolidation. I am not a party to the consolidation."

Already an unfavorable attitude to the hardware jobbers combination is believed to be apparent, in the incorporation, April 18, under New Jersey laws, of the Standard Metal Manufacturing Co. Some of the independent manufacturers seem to fear that if they do not organize for their mutual protection the purchasing agency for the jobbers' combine will be able to carry prices down to rock bottom by making offers to different manufacturers in the same line for their entire output, and then bringing them all to terms at the lowest figures. The only relief, it is urged, is the establishment of one selling agency and agreement upon one price.

AS VIEWED IN THE RUBBER TRADE.

[INTERVIEW WITH A SALES MANAGER.]

"THE hardware consolidation will not affect the mechanical rubber goods trade—the only branch of the rubber industry whose products are distributed by hardware houses. The reason is that the hardware trade is becoming relatively less important as a channel for distribution for rubber goods. Nowadays every consumer on a large scale of rubber goods seeks to avoid the middle man in placing his orders. No paper mill, for instance, would think of filling its requirements in rubber through a jobber, and there are single paper manufacturing companies who buy more rubber goods in a year than are handled in any hardware jobbing house. Jobbers do not handle important orders for belting, hose (except garden hose), or packing—the tendency of the consumer everywhere being to approach the manufacturer.

"Garden hose is still sold largely through jobbing houses, however, because the amount required by each consumer is small. And the same thing is true of some other lines of rubber—as, for instance, threshing belting, the demand for which in each individual case is small. A single hardware jobbing house has handled 750,000 feet of garden hose in a season. But in this line of trade the combination is not likely to affect existing arrangements. Such houses as the one referred to have garden hose in different grades made up under their own brands, and even if the orders should, as a matter of form, be placed through a general buying agency, each house would specify the same goods it had been handling, and the same factory would get the orders."

AKRON INVENTORS BUSY.—"You would be surprised to know the number of Akron people who are working on patents for use in the rubber business," said a local patent attorney, the other day. "In every rubber shop here there are men who are constantly trying to solve new problems in the business and to find new and profitable uses for rubber. To the fact that this activity does exist, I attribute much of the success of Akron rubber manufactories."—*Akron (Ohio) Democrat*.

A CONTRIBUTION TO TIRE HISTORY.

THE story has gone the rounds of the press lately that the solid rubber wheel tire originated in New York in 1865, when a man in the marble trade suggested the idea as a means of preventing the heavy specie trucks used in one of the banks from injuring the marble floors. This man was Henry W. Kellogg, but according to the newspaper accounts he never profited from the idea, though "the mechanic who did the job was sharp enough to have it patented, and died a few years ago worth a million."

Mr. Kellogg, who now resides at Battle Creek, Michigan, and is connected with the Duplex Printing Press Co., of that city, has favored THE INDIA RUBBER WORLD with an account of his part in the matter, adding that he never heard of a patent being taken out on the truck tires referred to. Mr. Kellogg was putting in the marble flooring of the New York Stock Exchange building, in 1865, when he received a call from the late Alexander T. Stewart, the merchant prince, who was interested in the Bank of North America, and wanted to know what kind of marble was least liable to crumble at the joints when a truck with iron wheels was rolled over the floor. As Mr. Kellogg writes:

He said: "Now what do you suggest, Mr. Kellogg?"

I replied: "I suggest that you have some wheels made that will not injure the marble you now have, nor even injure a carpet."

Mr. Stewart said: "I never heard of such wheels."

I replied: "Neither did I, nor did I ever see the need for them before, but as necessity is said to be the mother of invention, we will invent something to supply this need. I suggest that you have some wheels made with flanges, leaving a channel in the center, and that, you put into this channel a thick rubber tire, say 1 to 1½ inches thick, and that the inner diameter of this tire be less than the outside diameter of the wheel at the bottom of the channel, so that the tire will hug the wheel when it is forced on."

I then made a pencil cross section sketch of such a wheel and tire and gave it to Mr. Stewart. He asked if such a thick rubber could be put on over the flange and still hug the wheel at bottom of the channel. I replied that if this were impossible, the wheel could be cast with only one flange, and, after forcing the rubber tire onto the tread, a separate flange could be put on the other side, fastening it with screws into the edge of the tread or rim.

"Well, Mr. Kellogg," said Mr. Stewart, "I think your Yankee ingenuity will help us out of our difficulty, and lose you a marble job."

Soon after this, rubber tired hotel baggage trucks came into use all over the United States, and twenty years later, while traveling in other countries, I saw them in use at the different hotels and to-day [March 24, 1902] here at the Paxton Hotel, in Omaha, I examined one and found the wheels in no respect different from the sketch I made for Mr. Stewart in 1865. I did not apply for a patent, nor did either of us foresee the wonderful development of the rubber tire business. It was an easy and natural transition from a small truck wheel to a larger one, requiring but little if any invention. If there is any record of the use or invention of a vehicle wheel of any sort with a rubber tire prior to July, 1865, I am not aware of it.

There were earlier rubber tires, however. In 1845 a patent (No. 10,990) was granted in England to Robert William Thomson for "aerial wheels," equipped with pneumatic tires consisting of a rubber inner tube and a leather casing. In 1851 Thomson's name appeared in the catalogue of the Great Exhibition of London in connection with an invalid chair, of which "the wheel (in addition to an iron tire) is shod with a solid t and of vulcanized India-rubber said to be as durable as iron." By 1868 all the scientific journals in Europe were describing Thomson's solid India-rubber tires (five inches thick) for steam traction engines for common roads.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

PROBABLY in none of our rubber works has so much activity in the way of extensions been apparent in recent years as in the case of the Leyland and Birmingham Rubber Cos., Limited. In an important respect this company is more fortunately situated than are the great

EXTENSIONS
AT
LEYLAND.

majority of others engaged in the manufacture; I refer to the isolated position in which the works stand and the easy terms on which additional ground space can be acquired for extensions. This

is due to the foresight of Mr. Baxter, who now finds himself in a good position, not only for obtaining the necessary land, but also in having at disposal an unlimited water supply at a nominal cost, if indeed at any cost at all. The main idea on which the extensions have been carried out is to have one story buildings, so as to avoid the labor and delay incidental to stairs or lifts in the moving of goods from one department to another during manufacture. One of the new buildings certainly is a two storied one, but this is the exception and not the rule. A great feature at the Leyland works is the extensive application of electricity as a motive power for light work; motors are to be found scattered about the buildings to be put in use as occasion requires. In the garment department all the sewing machines are run by this agency, an instance where it is particularly appropriate. Needless to say, where there is power there is also light, the incandescent lamp being a prominent feature of the workrooms. Not that artificial light is needed in these works to anything like the extent that it has to be resorted to in the dingy town surroundings of many of our rubber works, and this is a circumstance for which the Leyland and similarly situated works have cause to be thankful. In connection with power the capabilities of the large gas engine have been recognized by the management, and it may be taken for granted that the potentialities of Mond gas will not be lost sight of, its undoubted assistance in keeping down the coal bill being a matter that admits of no cavil; that is, as far as large consumers of coal are concerned. With regard to rubber works, the use of Mond gas will depend largely upon the fact of the works being situated in the proposed areas of supply or not.

WITHOUT wishing in any way to adopt a didactic tone in what I say, or to put any particular firm or firms in the pillory of denunciation, it yet seems advisable for the best

CUTTING
OF PRICES.

interests of the trade generally to say a word or two regarding a special phase of existing competition. This is with respect to getting orders—at any price

Horace says "Make money, honestly if you can, but at any rate make it," and it really would seem that in the light of some of the transactions which have occurred of late in our trade this dictum might be paraphrased thus: "Get orders, at a profit if you can, but at any rate get them." Now it is clear that such procedure cannot be defended on either ethical or strict business grounds. It may do something towards keeping a mill going and in finding work for those who need it, but it can only spell disaster in the long run. It means the divergence of orders from firms who do not approve of this sort of policy to firms whose financial position gains a luster for the movement to which it is not strictly entitled. There have been cases where a "rocky" concern has inspired confidence in trade circles by reason of advertising the extent and importance of the contracts it has on hand, whereas if the truth

were known regarding the prices at which such contracts were obtained, there would be an *ipso facto* reason against giving such firms too much credit. It is of course a common axiom in trade that it is advisable to take up certain business, even if at a loss, and to neutralize this loss by reaping extra profits on other orders, but without stopping to inquire into the fallacy of this argument it may be laid down that it does not provide for contingencies such as failing by unexpected competition to obtain the necessary extra profits, and it is well known that procedure on such lines has rarely commanded the respect of first class business houses.

As far as I can make out there seems no future for this ball in Great Britain. Not that there is anything said against it;

HASKELL
GOLF BALL.

it is merely because the players do not recognize that the slight advantage in driving power, which they readily acknowledge, is worth the extra price they are called upon to pay for the ball. It is felt that the claims upon the golfer's purse are as it is quite heavy enough without going to more than a shilling for a ball, and this feeling will doubtless prevail to the detriment of the new ball.

In the *Berichte*, the organ of the German Chemical Society (No. 34-1901) appears a paper by Professor C. Harries of Berlin

ACTION OF
NITROUS ACID
ON RUBBER.

University on the behavior of nitrous acid to crude rubber. As the matter is purely one of scientific interest, and is without technical bearing, I do not propose to occupy my limited space by discussing it. Why I mention it at all is because Dr. Weber has been working independently at the same subject and has, I understand, obtained figures which coincide with those published by Professor Harries. Scientific men are apt to tumble over one another in their eagerness to claim priority in matters upon which the man in the street casts an indifferent eye and it may be, therefore, that the amicable arrangement which I believe has been come to between the two chemists mentioned as to further publications regarding the action of the oxy-acids of nitrogen on rubber will arouse no more than transient interest even in the breast of the rubber manufacturer. But this whether or no the circumstances of the case ought perhaps to be known, and the columns of THE INDIA RUBBER WORLD naturally suggest themselves as the correct medium for their dissemination. Apropos of the subject, I may add that nitric oxide, or the red fumes which are given off by fuming nitric acid, have long found a limited application in the rubber trade. This is in connection with the curing of rubber in chloride of sulphur vapors, a small quantity of the nitric acid being added to expedite the volatilization of the chloride of sulphur. At least this is the explanation given by those who use the acid; possibly the nitric fumes themselves help in some subtle way in the vulcanization, because their action on rubber is most energetic, and, it may be added, if allowed to proceed for more than a few minutes, most disastrous.

THE subject of the atrocities stated to have taken place in connection with rubber gathering in this region continues to

RUBBER
FROM THE
CONGO FREE STATE.

attract attention in our papers, and not only under sensational headlines in the daily press, but in thoughtful articles in such papers as the *Spectator*. It must be confessed that somewhat conflicting evidence has been adduced, but all the same to the unprejudiced mind there seems

little reason to doubt that the charges made against the lessees of rubber yielding areas are substantially true and that his Majesty of Belgium will be ill advised if he does not take energetic measures to insure that the disgraceful treatment recently meted out to the natives is abandoned for methods more in consonance with Western civilization.

THE explosions that have occurred in the London streets in the electric lighting mains and the disaster in the tunnel of the CABLE Liverpool overhead electric railway have resulted INTERESTS. in expressions of expert opinion which are rather against the interests of rubber insulation. As against other insulators, rubber of course has the disadvantage of giving off inflammable vapors when exposed to high temperatures. The board of trade expert in his report on the Liverpool disaster states that rubber cables might be dispensed with in many cases where they are now used and he recommends bare conductors as an alternative. In this connection it may be useful to recall the fact that the first system of cables laid down in Manchester was on the bare conductor system, but it was not long before it was replaced by insulated wires on account of the difficulty experienced in keeping the stone conduits free from moisture. It can hardly be supposed that the outspoken remarks of the government expert against rubber cables will be received with acclamation in interested quarters, but there can be no doubt that the street explosions in London, which seem to have been largely if not entirely due to the ignition of a mixture of air and distilled rubber vapors, have caused the rubber cable to be looked upon as an evil and its employment only to be tolerated where special circumstances demand it. This seems rather a severe indictment and a matter on which those who are interested in the rubber cable might well make some public pronouncement to show the other side of the case. The last year or two has shown us the inventor busy in the department of rubber gloves for electricians, improvements upon the ordinary glove of twenty years ago being conspicuous in several that have recently been brought out. One of the latest of these, patented by Mr. F. Pegler of the Northern Rubber Co. (Retford), has an inner lining of rubber within a glove of leather as textile material. If no other advantage is offered by this glove the fact that the rubber is not exposed to sunlight or other deleterious influences should make for its longer life, though against this it must be remembered from the analogy of fishing stockings that the sudor of the body has a very deleterious action upon rubber. With regard to the mechanically protected glove of the St. Helens Cable Co. it is pointed out that it protects the workman effectually in the case of running his hand against a nail and that such a glove may therefore prove of more utility than the plain rubber one of the Silver-town, even though the latter may stand a test of 5000 volts.

THE company with this English name and which has works at Gand, Cologne-Ehrenfeld, and at Prouvy-Thiant, France, was founded three or four years ago. It has recently been decided to close the Cologne works entirely, though the others are to be kept going. THE COLONIAL RUBBER CO. The manufacture of hollow playing balls was a great feature of this company, they having acquired the Continental rights of the Cox machine at the time that the Eccles Rubber Co. got possession of the British rights. From the position which the latter company found themselves in last year it is a fair supposition that the manufacture of balls by this patent is for some reason or other not exactly the Golconda which at one time it seemed likely to prove. The Colonial Rubber Co was largely financed it is understood by Brussels bankers, M. de Schampelaere being the most prominent director and taking charge of the works at Gand, where the manufacture of tires is the

mainstay of the business. The financing of industrial concerns by banking houses is a common feature on the Continent, more especially in Germany, but that such procedure has its dark side has been clearly evidenced by the acute depression which has been recently experienced in so many branches of German industry.

THIS motor tire, of which brief notice has already been made in these notes, under the heading of The Collier Twin Tyre Co., Limited, of St. Albans, is now the property of the Leyland and Birmingham Rubber Co., Limited, at whose COLLIER TIRE. works it will be exclusively manufactured. Some very good results have been obtained over long mileage and the car which is to represent England at the forthcoming French international motor car races is to be fitted with this tire. Mr. Baxter expresses his confidence in its future in no uncertain terms, and has himself turned a motorist, another instance of whilom horse lovers proving fickle to their first love, or at any rate of being without prejudice with regard to innovations. The Collier tire, which is a solid upon a pneumatic, is consequently a heavy one, which of course means that it is expensive. I am writing without any inspiration, but I understand that the price of the tires necessary for a 12 H. P. Daimler car is £80, which is considerably higher than what is charged for competitive tires, the reason for this being as just stated. It has been suggested that though the great strength of the tread is a good feature, yet that this means an extra pressure on the thinner part attached to the rim, and that this may prove a source of weakness. However, there may be nothing in this objection, and I do not put it forward as of any importance. It may be mentioned that the tire is patented in the United States.

IN connection with a recent article in THE INDIA RUBBER WORLD on the use of rubber on British railways, a reference is made to the use on one railway of metallic RUBBER ON LOCOMOTIVES. tubing for the feed pipe from tank to injector. This pipe, which is commonly known as the hogger pipe, is one which has important functions to fulfil and what is the best material for its construction is a matter which has closely engaged the attention of loco engineers. The pipe must be of a flexible nature, rigid material being inapplicable under the circumstances of its application. It may be taken that the great majority of our railways are using rubber for this purpose at the present time. Certainly at one time the London and North Western used canvas hose, but I cannot say at the moment whether the employment of this material has been persevered with.

EXHIBITIONS at which rubber goods will form a more or less prominent feature will open this month at Wolverhampton, England; Lille, in France; Düsseldorf, in Germany; and at St. Petersburg. The last named is to be known as the British Exhibition, the object being to bring British goods prominently before the inhabitants of the Muscovite empire. I am not yet in possession of details of firms exhibiting and cannot say whether British rubber manufacturers will be to the fore among the various industries which will find representation on the occasion. It is a far cry to St. Petersburg, and the summer months are apt to prove trying, but no doubt the exhibition will induce the influx of more British visitors than usually extend their travels on the continent to that distance.

THE limited company into which Mr. Thomas Rowley, rubber machinery manufacturer, has recently converted his business is of a private nature only, having been formed, as in so many other cases, from motives of family convenience, and not with the intention of attracting the capital of the public.

RUBBER PLANTING AND CRUDE RUBBER INTERESTS.

THE various plantation companies organized in the United States for operations in Mexico, with rubber as the principal or an important feature, appear on the whole to have made steady progress during the past year. No company which has once made a definite beginning has withdrawn from the field, while new companies are being organized all the while. Much preliminary development work has been done, a considerable amount of rubber has been planted, and a great number of rubber nurseries are in existence or are being planned for the coming season. The managers of the several companies appear to feel encouraged as the result of their work thus far, and there has been developed nowhere any reason for fear that, in the end, rubber cannot be cultivated profitably under right conditions and right management, even if some of the many enterprises under way should result in failure.

THE IMPERIAL PLANTATION CO.

[Plantation in the state of Vera Cruz, Mexico. Office: Society for Saving building, Cleveland, Ohio.]

INCORPORATED under Maine laws, with \$3,000,000 capital. The company own 3000 acres on the Cazonas river, in northern Vera Cruz. It is intended to plant 250,000 rubber trees this year, with "short crops" on a portion of the ground, besides which considerable space will be devoted to tobacco—these crops being meant to afford dividends while the rubber is developing. The president of the company is William Vernon Backus, of The William V. Backus Co., bankers, Cleveland, Ohio, who is also president of the Mexican Investment and Manufacturing Co., mentioned in THE INDIA RUBBER WORLD February 1, 1902 [page 142].

LAGUNA CHICA PLANTATION CO.

[Plantation: Tezonapa, state of Vera Cruz, Mexico. Offices: Fullerton building, St. Louis.]

THIS company was organized and took charge of the Laguna Chica plantation October 1, 1901. There are now reported to be in bearing 225,000 coffee trees (second crop) and 50,000 pineapples. There are also 500,000 banana plants in place, besides lemons and oranges. The company have not attempted as yet to anything with rubber, but are waiting until it shall be demonstrated by actual results that the cultivation of rubber in Mexico can be carried on successfully and profitably. The company are capitalized at \$300,000, of which \$200,000 has been placed. The officers are: W. H. Verity, president; Morton Jourdan, vice president; Joseph H. Tumbach, secretary and treasurer—all substantial business men of St. Louis. Santiago Graham is plantation manager.

LA TRINIDAD MEXICAN PLANTATION ASSOCIATION.

[Plantations "La Trinidad" and "Ixtal," near San Juan Evangelista, state of Vera Cruz, Mexico. Offices: No. 115 Dearborn street, Chicago.]

THE company own 1400 acres of land: "La Trinidad" estate, 400 acres, and "Ixtal" (purchased lately from Dr. W. S. Cockrell), 1000 acres. The total cost of land has been \$16,200, gold. The company reported lately rubber trees on the Ixtal tract, and the outlay for same to date, apart from cost of land and improvement work of a general character, as follows:

12,000 trees, 5 years old, on about 23 acres.....	\$ 9,000
5,000 " 4 years old, " " 9 "	3,125
10,000 " 3 to 4 years, " " 19 "	5,000
5,000 " 2 to 3 years, " " 9 "	3,750
8,000 " 1 year old, " " 15 "	2,000
40,000	75
	\$22,875

On the Ixtal tract, at the beginning of the year, were 30,000 rubber plants in nurseries, and on La Trinidad 70,000, since which time 15,000 additional trees have been transplanted on the Ixtal tract, mainly on land planted to corn and beans. It is planned to begin tapping at the age of six years. According to the above measurements the average number of trees is 533 per acre, but nothing is stated as to plans for thinning. The company have 25,000 coffee trees bearing and have planted cacao and fruits. Frank H. Adams is plantation manager. —A good income is anticipated from the sale of rubber seed (*Castilloa elastica*) to other planters. The yield of seed this year is estimated at 4000 pounds, part of which is under contract for shipment to India at \$1.13½ cents per pound.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO.

["Hacienda del Corte," district of Juchitan, state of Oaxaca, Mexico. Office: Herman building, Milwaukee, Wisconsin.]

At a recent annual meeting Edward S. Scofield, ex-governor of Wisconsin, was elected president of this company, and has removed from his home at Oconto to Milwaukee, to enter upon the duties of his office. —The company's Bulletin No. 13 contains an inspection report by H. G. Denison, on behalf of the stockholders, for the year ended February 28, 1902. He states that clearing was begun in the natural forest in February, 1900, since which time 1271 acres had been cleared. Coffee planting began in August, 1900, and there are now 191,335 trees—some with natural forest shade and some among rubber trees. From the first rubber planting, in June, 1900, there are 4242 trees, from 8 to 15 feet high. From the 1901 planting, there are 41,678 trees—a total of 45,920. The nurseries contain 315,000 coffee and 40,000 rubber plants. About 1200 cacao plants have been set out. The corn grown last year was sold for \$7149, Mexican, from which a dividend has been declared. Cecilio Oest, the plantation manager, is a graduate from a horticultural school in Denmark, who has had seven years of experience in Mexico.

JUMIAPA PLANTATION CO.

[Plantation at Jumiapa, state of Oaxaca, Mexico. Offices: Fullerton building, St. Louis, Missouri.]

THE first annual report states that 125 acres were cleared last year for coffee and 60,000 plants set, and that 100 acres had been cleared for planting coffee and rubber in 1902. The nurseries contained, at the beginning of this year: Coffee trees, 200,000; rubber, 50,000; cacao, 15,000; orange, 10,000. New nurseries will be made this year. Buildings have been erected, and roads and bridges made, at a satisfactory rate. The plantation manager is B. J. Tunnell, an experienced coffee planter. The estate is located on the Tehuantepec railway, at Tolosa station, on the Jumiapa river. The company sustains close relations with the Oaxaca Coffee Culture Co. (St. Louis), who own one of the oldest and most successful plantations on the isthmus of Tehuantepec. Officers: Bernard G. Farrar, assistant United States treasurer, president; Charles H. Krause, interested in coal mining, vice president; W. A. Brandenburger, an officer in a trust company, treasurer; Charles F. Haanel, of the Oaxaca Coffee Culture Co., secretary.

TABASCO AGRICULTURAL CO.

[Plantation in the department of Tacotalpa, state of Tabasco, Mexico. Office: No. 208 Parrott building, San Francisco, California.]

In our March issue [page 174] it was stated: "To provide the necessary funds, 2000 'plantation shares' are offered for

sale, at \$240 each, payable in installments within five years, these not being shares of stock, but representing the right of the purchaser to share in the profits of the plantation to the extent represented by his holding of certificates." It appears that this statement is inexact. From a copy of the company's contract with shareholders, now at hand, it is seen that the company distinctly agrees to give the purchaser complete control over the acres he actually buys, at any time he desires to take control after the expiration of the development period of five years. Each share represents 1-2000 of 2200 acres, of which 1600 acres are to be planted in rubber (480,000 trees), 400 acres in cacao (160,000 trees), 5 acres in vanilla (5000 vines), and 195 acres in "short crops" at the discretion of the management. During the development period the property is held in trust for the investors by the California Safe Deposit and Trust Co. (San Francisco.) When the first 2200 acres have thus been placed under development, another similar tract will be opened, and a new series of shares offered for sale, and so on, the company having 15,000 acres of land altogether.

LA ZACUALPA RUBBER PLANTATION CO.

[Plantation near Tapachula, state of Chiapas, Mexico; offices: San Francisco, California.]

THE location of this plantation was inadvertently given as being in Oaxaca, in THE INDIA RUBBER WORLD for March 1. [page 197.]—The company have issued in pamphlet form a report by E. S. Van Court, of Oakland, California, a stockholder who recently visited the plantation. He states that he saw three 7 year old trees yield $6\frac{1}{2}$ pounds of latex at one tapping; five 11 year old trees, said to have been tapped several times within twelve months, yielded in 20 minutes enough latex to make $2\frac{1}{2}$ pounds of rubber. Mr. Van Court considers the *Castilloa elastica* very tenacious of life; where trees had been cut down, shoots at once sprang up from the stumps, and where a tree had blown down, leaving most of the roots exposed, a number of shoots had grown up from the trunk. Mr. O. H. Harrison, manager of the estate, is mentioned as being at work upon a machine for tapping the trees, which will do less harm to the trees than tapping with the *machete*, while the opening made in the bark will permit the latex to flow more freely than where trees are tapped by the old method.

MEXICAN MUTUAL PLANTERS' CO.

[Plantation: La Junta, state of Vera Cruz. Offices: New York Life building, Chicago.]

A COMMITTEE of bondholders who visited this plantation recently reported on the progress of the various cultures there, the chief of which, to date, is coffee. There were planted in 1901, however, 10,000 rubber trees, for coffee shade, 16×16 feet apart, and 330,000 trees, in the open, $7\frac{1}{2} \times 7\frac{1}{2}$ feet apart. The latter planting covered about 478 acres. The trees were one year old when transplanted, and the loss amounted to only about 5 per cent. There were also about 3,000,000 rubber plants, in six nurseries, covering 34 acres. The management planned to clear and plant more than 1000 acres in rubber in 1902.—The company's horticulturist, James Maunder, writes in the Madras (India) Mail that 340,000 rubber plants were set out in July last, within 28 days from the start. The men employed made from 350 to 500 pits per day with posthole diggers, and one man could set 350 plants daily. Part of the area was then planted in corn, which kept down the weeds so that no weeding of the rubber was required until after the corn was harvested. The rubber was then weeded, and a second crop of corn planted—making two crops of the latter in one year. The second planting of corn was made within seven months from the first clearing of the ground. He expected to set out 1,000,000 rubber plants this year.

CHIAPAS RUBBER PLANTATION AND INVESTMENT CO.

[Plantation "San Luis," near Palenque, department of Palenque, state of Chiapas, Mexico. Office: Crocker building, San Francisco.]

THE president of the company, Mr. L. H. Bonestell, wrote from San Francisco March 25, in answer to a communication from THE INDIA RUBBER WORLD office, about his not having stated the number of acres planted in rubber by his company: "I did not do this for the reason that this had previously been reported, and as very little planting has been done since last planting season, June and July, there was very little change in that respect. The number of acres actually planted is 4000 and some hundred acres; cannot give you the exact number to date." Mr. Bonestell states that while visiting the plantation in February, he had a test made, as follows: "An acre was laid off already staked, and two men set to planting with old refuse seed left over. It took them just twenty minutes by the watch."—Criticism has been made in these pages of the character of the Chiapas company's advertising—particularly to a page which appeared in the San Francisco News Letter. A letter to THE INDIA RUBBER WORLD from the proprietor of that journal says: "I beg to say that the page illustration of the Chiapas Rubber Co. published in the San Francisco News Letter September 15, 1900, was not paid advertising matter."

LA ESPERANZA RUBBER CO.

[Hacienda de Tula, township of El Maison, state of Vera Cruz, Mexico. Office: Providence, Rhode Island.]

THIS plantation embraces 500 acres bought by Carleton Hale in 1898, being then virgin forest. There have been 270 acres cleared, and 130,000 rubber trees, of various ages, are now standing, together with 10,000 plants in nursery, which will be transplanted this summer on land now being cleared. Mr. Hale is in charge. The company is incorporated. Edgar J. Doe is president and W. P. Hale treasurer. The latter writes to THE INDIA RUBBER WORLD: "Ours is not one of the million dollar companies that promise returns from by products the first year, but a legitimate enterprise for making money when the trees get large enough to tap."

COSTA RICA DEVELOPMENT CO.

[Plantation, San Carlos, Costa Rica. Office: Los Angeles, California.]

INCORPORATED March 26, 1900, under Arizona laws; capital, \$1,000,000, in \$1 shares. Have purchased 7488 acres in Costa Rica, on the San Carlos river, which empties into the San Juan, and that in turn into the Atlantic. There is navigable water to the property, which lies within 15 miles of the proposed Nicaragua canal. In July, 1901, were planted 75,000 rubber and 10,000 cacao trees. A large planting from seeds is planned for the coming June. The officers are substantial business men of Los Angeles, California. At the annual meeting, on March 27, the following were elected: L. W. Blinn, president; H. Jevne and C. S. Hogan, vice presidents; J. B. Henderson, secretary; E. B. Merrill, treasurer. The plantation superintendent is Guy Hogan, a son of Vice President Hogan. The company offer stock for development purposes at 50 cents a share. They also offer to sell, for \$150, ten acres of land, of a tract of 2000 acres now under development, to be planted with 200 rubber trees to the acre, and cared for by the company for four years, payment for the tract to be made in installments, if desired.

MEXICAN DEVELOPMENT AND CONSTRUCTION CO. OF WISCONSIN.

[Plantation in Oaxaca, Mexico. Office: Oshkosh, Wisconsin.]

INCORPORATED under Wisconsin laws; formally organized February 20, 1902; capital, \$50,000, fully paid in cash. Com-

posed of capitalists of Oshkosh and Appleton, Wisconsin, who recently purchased 5000 acres of Mexican lands suitable for planting. Five thousand certificates of interest will be offered for sale, each to represent the development of one acre of land, at \$300 each, payable in monthly installments. Officers: *William Michelstetter*, of the Schuckmann-Seligmann Co., Milwaukee, president; *T. R. Morgan*, of The Morgan Co., first vice president; *D. C. Burdick*, wholesale furniture, second vice president; *W. K. Ridout*, president National Union Bank of Oshkosh, treasurer; *William E. Ryder*, secretary and general manager.

CEYLON PLANTERS' RUBBER SYNDICATE, LIMITED.

[See THE INDIA RUBBER WORLD, January 1, 1902—page 104.]

AT the second annual meeting, at Colombo, on February 28, it was resolved to increase the capital of the company to 2,50,000 rupees (= \$81,000). New shares will be issued, because the present funds are insufficient to carry on the work until the rubber trees become productive. Only 350 acres have been planted, of 615 acres opened, owing to part of the seed placed in nurseries not turning out well. The company are not favorably impressed with "catch crops," on account of the low prices obtainable, but it is proposed to plant the next 200 acres in connection with Liberian coffee, the rubber to be placed 15×30 feet apart. It is expected that from the beginning of 1906 the estate will be self supporting, the estimated profits being sufficient to carry on the work from that date until the rubber trees are yielding. The total expenditure to December 31 had amounted to \$31,713.49.

BALTIMORE CAPITAL INVESTED IN BOLIVIA.

THE Andes Rubber Co., incorporated under Delaware laws, August 15, 1901, to acquire and develop rubber concessions in South America, have purchased an extensive property in Bolivia, on the western bank of the upper Beni river, in the province of Caupolicán, and adjoining the territory on which Sir Martin Conway has a concession. It is stated that several hundred rubber *estradas* have been marked out, buildings erected for the administration of the company, and 200 acres cleared for the cultivation of food products for the rubber gatherers. On March 10 a party left Baltimore, Maryland—the headquarters of the company—to take charge of the property, and plan for tapping 60,000 rubber trees during the coming season. Capital has been provided to the extent of \$600,000, somewhat more than half being subscribed by Henry A. Parr, a Baltimore grain merchant. Another shareholder is J. A. Pharoah, a native of Massachusetts, who has spent many years in South America and will be resident manager of the property. The remaining interest is held largely by Manuel Elguera, of Lima, Peru, through whose interest the company was formed; by his brother, who is mayor of Lima, and other business men in the latter city. The Andes company intend shipping the rubber gathered from their property via Mollendo, on the Pacific coast.

NEW GUINEA—The news comes from Berlin that Rudolf Schlechter, the botanist in charge of the German Caoutchouc and Gutta-percha expedition to the South Sea islands, has discovered Gutta-percha in German New Guinea. This will entitle him to the prize of 3000 marks offered by a citizen through the Colonial Industrial Committee, for the first discovery of Gutta-percha in a German possession.

PHILIPPINES.—Henry A. Reed, of the Bishop Gutta Percha Co., interviewed for the New York Times, said: "We are constantly receiving samples of what are known in the trade as 'bastard' Guttas from the Philippines and Venezuela. None has yet proved to be true Gutta. The nearest approach to it was a sample from Samar—almost a true Gutta of a low grade."

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first eight months of the current fiscal year, compared with the same months of three years preceding—not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-January. February, 1902	\$355,509 45,942	\$833,934 51,272	\$940,363 136,826	\$2,129,806 234,040
Total	\$401,451	\$885,206	\$1,077,189	\$2,363,846
1900 01	343,509	612,279	1,112,708	2,068,496
1899 00	357,930	281,107	876,259	1,515,296
1898 99	(a)	188,674	899,044	1,087,718

(a) Included in "All Other" prior to July 1, 1899.

Pairs of rubber footwear exported during the same periods:

1898-99.	1899-00.	1900-01.	1901-02.
362,008	530,071	1,268,585	2,272,262

RUBBER GOODS IMPORTS INTO CUBA—1901.

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
United States	\$3,228	\$3,794	\$ 78,564	\$ 85,586
United Kingdom	—	—	29,043	29,043
Germany	2	—	5,398	5,400
France	—	—	7,337	7,337
Spain	—	—	12,560	12,560
Italy	—	—	737	737
Austria-Hungary	—	—	471	471
Belgium	—	—	282	282
Porto Rico	—	—	11	11
Total	\$3,230	\$3,794	\$134,403	\$141,427

SAMPLES of rubber goods, with commercial value: From United States, \$100; United Kingdom, \$6; Germany, \$57; France, \$1;—total, \$164.

RUBBER GOODS IMPORTS INTO THE PHILIPPINES—1901.

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
United States	\$ 575	\$ 1,593	\$18,993	\$21,161
United Kingdom	248	1,653	19,108	21,009
Germany	571	587	12,141	13,299
France	52	3,063	4,844	7,959
Spain	—	273	2,586	2,859
Belgium	—	294	313	607
Netherlands	—	—	202	202
Switzerland	—	—	352	352
China	129	2,088	562	2,779
Hongkong	—	—	15	15
Japan	—	—	541	541
British E. Indies	2	1,552	601	2,155
Siam	—	—	30	30
Australasia	—	—	212	212
Total	\$1,577	\$11,103	\$60,500	\$73,180

SAMPLES of rubber goods, with commercial value: From United States, \$24; United Kingdom, \$11; Germany, \$36; Spain, \$17; Austria, \$5; China, \$6; Hongkong, \$100; Japan, \$3;—total, \$202.

GREAT BRITAIN.

OFFICIAL return of values of rubber goods exported in January, February, and March for three years:

	1900.	1901.	1902.
Boots and shoes	£ 372,884	£ 35,365	£ 31,896
Unenumerated	—	263,507	261,840
Total	£ 372,884	£ 298,872	£ 293,736

Pairs boots and shoes Not stated. 307,452 284,352

Value of waterproofed apparel and slops, January-March, 1902. £ 74,586

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED MARCH 4, 1902.

NO. 694,463. Cushion for game tables. Richard F. Downey, Menominee, Michigan, assignor to the Automatic Portable Bowling Alley Co.

694,541. Vaginal syringe. Arthur R. Gordon, Toledo, Ohio.

694,821. Tire. Anton Von Beust, Orange, and Frank M. Potter, Newark, New Jersey.

694,872. Shoe or boot. Benjamin E. Lockett, Jefferson City, Missouri.

ISSUED MARCH 11, 1902.

695,298. Rubber tread. Rolon E. Foster, Revere, assignor to Horace Van Everen, trustee, Cambridge, Massachusetts.

695,394. Cushion tire. Charles Hird, Woonsocket, assignor of 49/100 to Patrick J. McCarthy, Providence, Rhode Island.

Trade Mark.

37,942. Horseshoe pads. The Consolidated Hoof Pad Co., New York city. Essential feature—the letters "A. C." Used since December 14, 1901.

ISSUED MARCH 18, 1902.

695,627. Imitation leather and process of producing it. Herman Rosenberg, New York city, assignor to Standard Varnish Works, same address.

695,776. Means for securing elastic tires to wheels. William F. Williams, London, England.

695,813. Manufacture of golf balls. Eleazer Kempshall, Boston, Massachusetts.

695,866. Golf ball. *Same.*

695,867. Manufacture of playing balls. *Same.*

695,892. Vermin Destroying nest egg. Edwin T. Stewart, Ottawa, assignor of one-half to James Q. Blodgett, Laharpe, Kansas.

ISSUED MARCH 25, 1902.

696,124. Mold for curing tires. Charles H. Wheeler and Franklin W. Kremer, Akron, Ohio, said Wheeler assignor to the India Rubber Co., Akron.

696,249. Tire. William F. Masters, Brooklyn, New York.

696,351. Playing ball. Francis H. Richards, Hartford, Conn., assignor to the Kempshall Manufacturing Co., a corporation of New Jersey.

696,352. Manufacture of playing balls. *Same.*

696,353. Golf ball. *Same.*

696,354. Manufacture of golf balls. *Same.*

696,365. Golf ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.

696,366. Golf ball. *Same.*

696,367. Golf ball. *Same.*

696,368. Manufacture of golf balls. *Same.*

696,369. Golf ball. *Same.*

696,391. Tire construction. John C. Cole, Chicopee Falls, Massachusetts, assignor of one-half to Fisk Rubber Co.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS—1902.

2081. Joseph Butler, William Bell, William Andrew Jones, and James Bate, Manchester. Outer covers of pneumatic tires. January 27.

2179. William Stewart, 46, Lincoln's Inn Fields, London. Pneumatic cushion appliance for fire escapes and other purposes. January 27.

2232. Edward Albert Clapp, 18, Fulham place, Paddington, London. Vulcanized India-rubber tips for boots and shoes. January 28.

2268. George Cope Dixon, 110, Clarence road, Clapton, London. Appliances for locating punctures and fractures in the inner tubes of pneumatic tires. January 28.

2295. Enos Smith, 322, High Holborn, London. Protected pneumatic tire. January 28.

2302. Eleazer Kempshall, 19, Holborn viaduct, London. Golf balls. [Communication from the United States.] January 28.

2333. Frank Augustus Seiberling, Birkbeck Bank chambers, Chancery lane, London. Solid rubber tires. [Communication from the United States.] January 29.

2451. Joseph Thomas Wicks, 6, Grand Parade, Harringay, London. Reclaiming machines for India-rubber. January 30.

2475. Frederick William Schroeder, Charles John Lavington Clarke, and Bernard John Hyde, Birkbeck Bank chambers, Chancery lane, London. Means for securing tires to wheels. January 30.

2476. F. Ake, Manchester. Soft rubber key for vulcanite locks. January 31.

2564. Richard Hind, 37, Chancery lane, London, puncture mending device for pneumatic tires. January 31.

2626. Herbert Buckley, Manchester. Metal rims and rubber tires for vehicles. February 1.

3125. Alexander Bodenheimer, 111, Hatton garden, London. Pneumatic tires. February 7.

3262. William Henry Vivian Pearce, 4, South street, Finsbury, London. Pneumatic tires. February 8.

3276. George Lewis, Wolverhampton. Rubber top piece for heels of boots and shoes. February 8.

3315. Frederick James Coates, Maidenhead. Woven metal mail for pneumatic tires. February 10.

3468. Raymond Beach Price, 45, Southampton Buildings, Chancery lane, London. [Communication from the United States.] Recovery of rubber from vulcanized rubber waste. February 11.

3569. Walter John Vann, Derby. Rubber suction pad and silencer or protector. February 12.

3591. Alfred Whiteway and Charles Macintosh & Co., Limited, Manchester. Pneumatic tires. February 12.

3690. Alfred Smallwood, Birmingham. Tires and rims of wheels. February 13.

3855. Ernst Zühl, 18, Buckingham street, Strand, London. Process for the regeneration of Caoutchouc. February 14.

3876. Albert John Baker, Bristol. Baker's India-rubber boot and shoe protectors. February 15.

3884. Edward Henry Sheddin. Pneumatic tires. February 15.

3908. Lewin Karmel, Nottingham. Means for repairing pneumatic tires and other inflated articles. February 15.

4126. John Padfield, 55, Chancery lane, London. Puncture proof device for pneumatic tires. February 18.

4218. John Nicolson Gondi and James Nicolson, Glasgow. Seams for waterproof garments. February 19.

4245. Henry Edward Harris, 55, Chancery lane, London. Improvements in rendering pneumatic tyres unpuncturable. February 19.

4391. Joseph Barton Scammell and Ernest Alfred Muskett, 56, Leadenhall street, London. Manufacture of artificial rubber. February 21.

4545. James Henry Howard, 70, Chancery lane, London. Rims and tires for wheels. February 22.

PATENTS GRANTED.—APPLICATIONS OF 1900.

18,243. Rubber tires. Stevens, A. Le R., No. 211 West One Hundred and sixth street, New York, United States. October 13, 1901.

18,461. Rubber tires. Marks, G. C., 18, Southampton buildings, Chancery lane, London. [Consolidated Rubber Tire Co., Jersey City, United States.] October 16, 1901.

18,543. Plastic compositions. Nixon, A., Manchester. October 17, 1901.

18,572. Boots and shoes. Berry, D. A., Northampton. October 18, 1901.

18,635. Rubber tires. Fawkes, C. G., Denver, Colorado, United States. October 18, 1901.

18,770. Pneumatic tires. Lipowsky, A., 614, Old Ford road, London. October 20, 1901.

18,964. Horseshoe pads. Hallanan, M., No. 186 West Fourth street, New York, United States. October 23, 1901.

18,972. Surgical bags for ice, water, etc. Haddan, H. J., 18, Buckingham street, Strand, London. [Meinecke & Co., New York, United States.] October 23, 1901.

19,177. Rubber tires. Clouth, Franz, Cologne, Germany. October 26, 1901.

19,387. Waterproof coats. Boulton, A. J., 111, Hatton garden, London. [Dodshon, F. G., Hamilton, Ohio, United States.] October 30, 1901.

19,504. Pneumatic tires. Collier, A. T., St. Albans, Herts, and Collier Twin Tyre Co., Laurence Poultney Hill, London. October 31, 1901.

19,614. Pneumatic tires. Hemsted, E., Toronto, Canada. November 1, 1901.

UNDER the new Australian tariff law, machines and tools for making rubber are admitted free.

GOODRICH RUBBER GOODS.

MECHANICAL RUBBER GOODS.

Bands and Tires — For Pulleys, Carpet Sweepers, Truck Wheels, etc.
 Belting — Rubber and Gutta-Percha.
 Billiard Cushions.
 Buckets for Chain Pumps.
 Carriage Mats.
 Carriage Rubber — Anti-Rattlers.
 Top Prop Blocks.
 Springs.
 Corks, or Stopples.
 Coffin Strips.
 Cushions for Bradley Hammers.
 Crutch Tips.
 Chair Tips.
 Diaphragms.
 Door Springs.
 Electrical Friction Tape.
 Electrical Socket Covers.
 Electrical Bushings.
 Fruit Jar Rings.
 Fuller Balls.
 Gaskets, every description.
 Grain Drill Tubes.
 Grain Drill Feeders.
 Hat Bags.

Hose—Armored.
 Garden, Rubber and Cotton.
 Steam.
 Brewers.
 Air.
 Pneumatic.
 Chemical Engine and Divers.
 Oil, Acid, Coke, Gas.
 Hydraulic High Pressure.
 Suction.
 Tank.
 Fire, Rubber and Cotton.
 Mill, Rubber and Cotton.
 Hose, Railroad—
 Air Brake.
 Water Conducting.
 Engine.
 Car Heating.
 Vacuum, etc.
 Mallets.
 Mold Work, to order.
 Mats.
 Matting.
 Oil Well Supplies.
 Paper Machine Rolls.
 Press Rolls.
 Couch Rolls.
 Squeeze Rolls.
 Water Finish Rolls.

Packing.
 Rings, all kinds.
 Rolls Rubber Covered—
 For Tobacco Factories.
 For Woolen Mills.
 For Cotton Mills.
 For Tanneries.
 For Bleacheries.
 For Cloth Printing Mills.
 For Laundry Machinery.
 Pulley and Sheave Filling.
 Plumbers' Goods, all kinds.
 Pure Sheet Rubber.
 Rubber Cord.
 Rubber Springs.
 Screw Bumpers.
 Sewing Machine Rubbers.
 Springs.
 Stair Treads.
 Tiling.
 Tack Tips.
 Truck Bands.
 Weather Strips.
 Tubing.
 Type Writer Rolls.
 Valve Balls.
 Valves, red and gray.
 Washers, every description.
 Wringer Rolls.

TIRES.

Bicycle—Palmer, Goodrich, M. & W., G. & J., Buckeye, Juvenile.

Vehicle—Goodrich Clincher Automobile, Goodrich Single Tube Motor, Goodrich Solid.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Air Goods Beds, Cushions and Pillows.
 Aprons.
 Atomizers.
 Bags.
 Bands.
 Bandages.
 Bath Caps.
 Beds—Water and Air.
 Bed Pans.
 Belts.
 Bottles.
 Breast Pumps.
 Breast Shields.
 Bulbs.
 Bulb Syringes.
 Catheters.
 Coils.

Colon Tubes.
 Copying Press Sheets.
 Corks.
 Cups—Drinking.
 Cupping Cups.
 Cushions.
 Dental Rubber.
 Dental Dam.
 Dilators.
 Drainage Tubes.
 Embalmers' Pillows.
 Erasive Rubber.
 Face Bottles.
 Filters—Pocket.
 Finger Cots.
 Furnace Bulbs.
 Gas Bags.
 Gloves.

Hospital Sheeting.
 Ice Bags.
 Ice Caps.
 Medicine Droppers.
 Nasal Douche.
 Nipples.
 Nipple Shields.
 Nursing Bottle Fittings.
 Obstetrical Cushions.
 Ornamenting Bags.
 Pessaries.
 Photographers' Bulb Outfit.
 Pillows.
 Plant Sprinklers.
 Plaster Bowls.
 Politzer Bags.
 Rectal Tubes.

Rectal Bougie.
 Sheeting.
 Sponge Bags.
 Sponge Rubber.
 Stationers' Bands.
 Stomach Tubes.
 Stoppers.
 Surgical Appliances.
 Syringes.
 Teething Pads and Rings.
 Tourniquets.
 Tubes.
 Tubing.
 Umbrella Rings.
 Urinals.
 Water Bags.
 Water Beds.
 Water Bottles.

TOYS AND SPORTING GOODS.

Bicycle Luggage Carriers.
 Foot Balls.
 Basket Balls.
 Toy Balls.
 Hand Balls.
 Golf Balls.
 Foot Ball Bladders.

Basket Ball Bladders.
 Striking Bag Bladders.
 Golf Ball Sponge Case.
 Golf Club and Tennis Racket Handle Covers.
 Gun Recoil Pads.
 Pistol Holsters.

Slingshot Rubbers.
 Tobacco Pouches.
 Toys—
 Brownies.
 Punch Rattle.
 Russian Figures.
 "Little Minister," etc.

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AKRON RUBBER WORKS,

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 BOSTON—157 Summer St.
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DETROIT—395 Woodward Ave.
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 LONDON—7 Snow Hill, E. C.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

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Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston, 24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Rubber Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

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Mention The India Rubber World when you write.

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The Mechanical Rubber Company, CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,
If you are in search of good goods at fair prices,
If you cannot get quick deliveries,
If you are not getting fair value for your money,
IN ANY EVENT,

SEND TO US FOR SAMPLES AND
QUOTATIONS.
WE CAN SUIT YOU EVERY WAY.

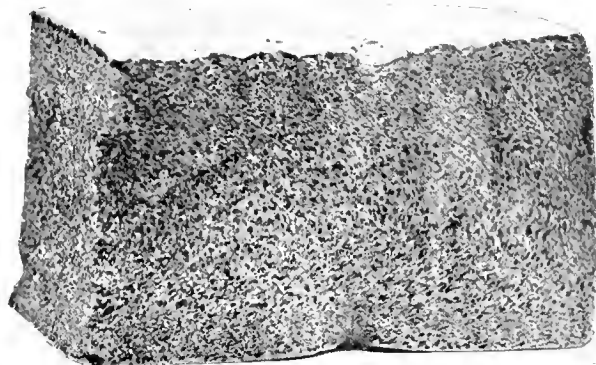
FACTORY, GRAND AVE. & ROCKWELL STS

THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.

Mention the India Rubber World when you write

SPONGE RUBBER AND RUBBER SPONGES.

SPONGE rubber, known also as "moss rubber" or "frost rubber," is by no means a new discovery. Common report has it that it was first manufactured in England and later in France and Germany. The value of the sponginess of vulcanized rubber was, however, fully recognized by Goodyear, who made sponge cord for weather strips. He also vulcanized a sheet of sponge rubber between two air-tight fabrics, cutting the sheets apart later and using the "shag" sur-



SPONGE RUBBER.

face for bath mittens and the like. A suggestion of his, that is of value only as showing the thought he put upon this subject, is the manufacture of rubber carpet with a spongy surface and cloth backing, which should be softer to the tread than the "finest velvet."

The uses to which sponge rubber are put are many and varied. It is used as a cushion for rubber stamps, in artificial feet, in playing balls, in semi-solid tires, for erasive rubber, for glove cleaners, and it has been tried in horse collars, harness pads, cushions, and so on. In all cases the sponginess is induced by incorporating something that will give off vapors during the process of cure. Of course the very cheapest liquid for this purpose is water; hence one of the first compounds for puff balls depended upon its dampness for sponging. It was as follows:

Soft African rubber.....	5 pounds.
Reclaimed rubber.....	5 pounds.
Whiting.....	6 pounds.
Litharge.....	2 pounds.
Palm oil.....	1 pound.
Sulphur.....	5½ ounces.
Damp saw dust.....	2 pounds.

The sawdust was just fine enough to pass through a sieve of No. 20 mesh. It was thoroughly wet and the mixing done on a cool mill. A slow cure and the cooling of the molds before opening are of course necessary. Compounds similar to this where fiber, substitute, etc., are made the means of carrying the water are very common and are exactly as good for the purpose. Quite a variety of ingredients are used in some of the spongy compounds, but none will appear to the rubber manufacturer to be more novel than brown sugar and licorice, both of which bring about sponginess. Perhaps the most distinctively "freak" compounds in this line are those that follow, and have been the subjects of British patents:

NO. 1.

Para rubber.....	50 pounds.
Tungstate of soda.....	9 pounds.
Alum.....	2 pounds.
Carbonate of ammonia.....	14 pounds.
Asbestos (fine powder).....	23 pounds.
Arsenic.....	1 pound.
Gum Kauri.....	1 pound.

NO. 2.

Carbon, of ammonia.....	15½ pounds.
Alum.....	3 pounds.
Tungstate of soda.....	3 pounds.
Borax.....	5 pounds.
Camphor.....	10½ pounds.
Lampblack.....	10½ pounds.
Para rubber.....	50 pounds.
Sulphur.....	2½ pounds.

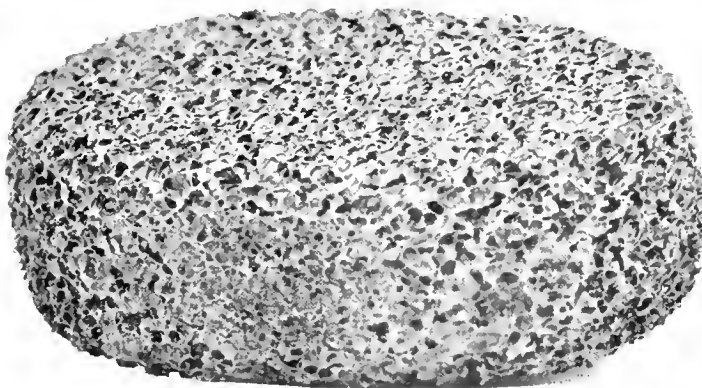
NO. 3.

Alum.....	6 pounds.
Tungstate of soda.....	6 pounds.
Chloride of ammonium.....	12 pounds.
Borax.....	8¾ pounds.
Camphor.....	6 pounds.
Lamp black.....	8¾ pounds.
Para rubber.....	50 pounds.
Sulphur.....	2½ pounds.

It will be seen from the foregoing that it is the easiest matter in the world to cause rubber to "sponge." But to make a perfect rubber sponge, such as are to-day sold the world over, and which only one company as yet has produced, is quite a different problem. And this is because the trade demands a rubber sponge that is odorless, that is evenly spongy, and one that will not harden after lying in stock for a month or two. A large amount of experimenting is now going on in a score of factories, and as the market grows so will new manufacturers learn the secret and be able to supply the goods. Indeed, this is to be wished for, as to-day rubber sponge sells for too high a price and holds its place in the market simply because it is far superior, for many uses, to the natural sponge.

Hancock, in experimenting for sponge effects, made a benzol solution of Para rubber and stirred into it just enough of the Parkes cold cure solution to cure very slowly. Then he immersed the vessel in water heated just to a boiling point, leaving it there until the solvents were fully volatilized. This resulted in a beautiful sponge, but it was far from odorless and in time grew as hard as a rock from the effects of the sulphur chloride. A later modification of this process was to heat the solution of rubber until it sponged and then dip it quickly into the chloride solution, killing the continued effect of the chloride of sulphur by the ammonia and water bath.

Rubber sponges have been offered in the American trade at various times, but with little success until recently. With the introduction of a really excellent article, however, the demand has grown rapidly and still continues to grow.



A RUBBER SPONGE.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE ALPHA "MERMAID" BATHING CAP.

BATHING caps are sold by the thousand, of all colors, made of all sorts of materials, but until the advent of the "Mermaid" they were not likely to enhance the loveliness of the bathers. In this new type, however, there is not only novelty, but so many artistic possibilities that the cap is sure to become a favorite. It is, in a word, an elastic rubber cap and a triangular scarf combined. The illustration



herewith shown gives an idea of its shape, but none at all of the beautiful waterproof fabrics of which it is made. When the cap is placed on the head of the wearer the scarf ends hang down upon the shoulders. Before going into the water these ends are deftly knotted just above the forehead, in half a dozen ways that women alone understand, and the effect is bewitching. The "Mermaid" cap is patented and manufactured by Parker, Stearns & Sutton, South street, New York.

THE "CROWN BRAND" DRESS SHIELDS.

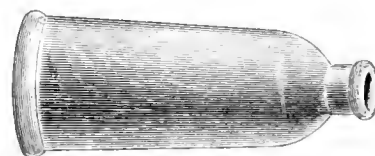
A LINE of shields that bears an excellent reputation for finish and quality, is the "Crown Brand," made in seamless stockinette, pure rubber lined, and light weight lined. These shields are covered, single or double, in black or white, in cambric, nainsook, silk, or linen. The pure rubber lined have the following sub-brands: The "Jewel," nainsook covered; the "Royal" and "Imperial," cambric covered, and are made in



four sizes. The light weight sheeting shields are graded the same way, but bear the names "Snowflake," "Seafoam," and "Vassar." The double coated, washable shields bear the names "Campania," "Majestic," and "Saxonia," while the seamless stockinette shields are called the "Princess," "Duchess," and "Countess." All of these shields are perfect fitting, odorless, and well made. [Conant Rubber Co. Boston.]

RUBBER SLEEVES FOR LAMPHOLDERS.

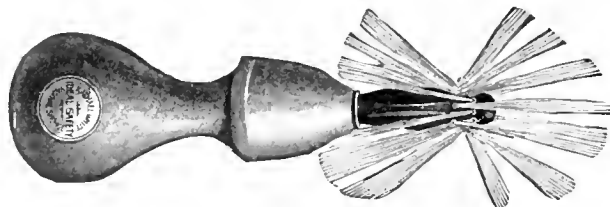
THE accompanying illustration shows a rubber sleeve for incandescent electric lampholders, invented by Mr. Samuel Miller, of Camden Town, and being sold by the General Electric Co. (1900), Limited (London). This article is designed to effect the protection of lampholders when used in the open air or in damp places, and it is, therefore, clear that it may be of some



service in connection with electrical illumination work during the next three months. As the sleeve engages directly on the glass of the lamp, it prevents rain or damp air penetrating into the interior of the lampholder, and so prevents short-circuiting. As may be imagined, it is a quite inexpensive affair, and fits over the holder as a close fitting skin.

RACHEL WHITE "IDEAL" SAFETY SYRINGE.

THE illustration shows a new type of syringe, on which a patent has been applied for, and which is having a very large sale. The syringe itself is made of a high grade white rubber,



while the pipes are made of polished hard rubber in two sizes, $3\frac{1}{2}$ and 5 inches in length. The pipes, by the way, are applicable to fountain syringes, as well as to the bulb type. [Rachel White Co., Boston.]

A NEW GOLF BALL.

THE Diamond Rubber Co. (Akron, Ohio) will place a new golf ball on the market. The ball is said to be made of pure Gutta-percha, free from resinous substances, and very fast. Its principal features are its ability to resist chafing, and the paint will not chip, nor will the ball show black when cut by an iron. The two last mentioned features should give it an exclusive position in the trade. Several professionals have pronounced it among the best.

FRENCH AFRICA.—Two French rubber trading companies have abandoned their concessions in the French Congo, viz.: the Société Franco-Congolaise de la Sangha, with 600,000 francs capital, and the Compagnie de l'Oubangui-Ombella, with 1,000,000 francs capital—both organized in 1899. From reports lately current it is probable that troubles with the natives have led to this step. The Compagnie Coloniale du Gabon, with 40,000 francs capital, have also abandoned their concession in Gaboon.

BORNEO—Frank G. Carpenter, writing from Singapore to his American newspaper syndicate, says that a German company in Borneo have 1000 Pará rubber trees under cultivation, and that other rubber plantations are being formed there.

GUTTA TRADING CONDITIONS IN THE PHILIPPINES.*

THERE is a feudal system of government among the Moros, who profess to be Mahomedans, and their chief, who is called a "datto," rules each his own particular following; they inhabit the low lands and river flats and hence occupy all the waterways that lead to markets and the coast towns, while the mountains, where the Gutta and Rubber grow, are inhabited by an entirely different people, who, like the Moros, are in separate tribes. They are the Tirumays, Monobos, Dalangano, Tugabillis, Bilans, Bagobas, Monteeses, Mandayans, and others, and it is from these mountain people that the Moros, who control the waterways, steal or buy all the Gutta and Rubber and Balata that comes to market. This robbery and making slaves of the mountain people and gathering the products with forced labor, was carried on extensively after the Spaniards evacuated this place, and before the Americans came here, and a half bred Chinaman, who is known as Datto Piang, got a great number of the firearms left here by the Spaniards, and started in to rob and kill all the dattos who opposed him, and make slaves of their men. Having superior arms, this was easy. The Chinese trader helped him, both by carrying a gun for him and supplying him with ammunition; in a little while he was the strongest datto in the Rio Grande valley, and all the dattos he subdued and their men were made to gather Gutta and Rubber and bring to market, where the Chinese handled it by shipping it to Singapore. The destruction of trees was probably between 200,000 and 300,000 in a few months.

This was the system in vogue when the Americans came here two years ago, and it continues to-day, except just around the town, where the opposing dattos are immediately under American protection. After Piang's conquest of the other dattos, and when some of these who took flight were combining to oppose him, he sent for the Americans on the advice of the Chinese, and now the Americans will not allow any dattos to fight. The result of Piang sending for the Americans was that the news was spread by the Chinese and Piang, that they were here by his permission, and were acting as police for him, and that is believed to-day by all the dattos, whom Piang has robbed; and no wonder, for he has pulled the wool over the eyes of the Americans, and has been able to get them to do as he liked. This impression once created is hard to eradicate, especially as the Americans always make much of him, while the other dattos get very little consideration. To show you how simple the Americans were at colonizing, they had Piang's slaves for policemen in the town here, drawing American pay, with a relation of Piang for captain of police, until about three months ago, and they were only discharged after a letter appeared in a Manila paper drawing attention to the fact. The result under that system was that Piang's captain of slave police was present at all interviews when the interpreter was employed between Piang's enemies and the commanding officer, and naturally he was a spy for Piang and the Chinese, so that the government heard nothing except what Piang wanted them to hear. This will give you an idea what a pull the Chinese had in the Gutta trade, and when I wanted to buy, Piang issued an order that all Gutta and Rubber and Balata was to be brought to him and sold for \$2, gold, a picul. (A picul is

137 pounds.) And then he would send it down here and ask from \$25 to \$50, gold, a picul. He had his men posted on all the waterways with knife, spear, and guns, and anyone who tried to come down here with their product, was made a prisoner, and his products, whether it was Gutta, Rubber, Balata, rice, or cacao, were stolen and the owner beaten or made a slave. I have known a sultan, with 600 population who were dying for the chance to come here and trade. He lives only about 30 miles from here, but he could not because Piang had twenty men, with weapons, stationed near him, and they corralled all his products. Is it any wonder that they think the Americans are police for Piang? If one did anything that Piang did not like (because there were some who resisted him) he threatened to have the Americans, his police, lock them up. He and the Chinese run this country, and are running the greater part of it to-day. I have heard Piang say to the commanding officer here that he would kill a certain man, and instead of throwing him in jail and punishing him, he simply swallowed it. Why? Because he said he thought Piang was a civilizing influence. I suppose he also thinks the opium concession and the gambling concession which he sells every three months, is a civilizing factor. Both of these, which are entirely American introductions here, have sapped the Moros mentally, physically, and morally, and the result is to-day we have a pack of thieves, gamblers, opium fiends, and liars that are not capable of a day's labor, except by compulsion, and all this is for the benefit of the Chinese and Piang—the civilizing factor that has murdered more men than all the other dattos combined, and for nothing but gain.

The Forestry laws that prohibit the cutting down of Gutta and Rubber trees are entirely ignored by the authorities, and the destruction of these is going on at the rate of 10,000 a month. The Forestry bureau has issued orders to stop cutting trees, but the thing goes on just the same—not a pound of Gutta, Rubber, or Balata that has gone out of this island has been obtained by tapping trees. I have just returned from a trip into the Gutta and Rubber regions in the interior, and all the mountain tribes are willing to stop cutting the trees and tap them, as they make very little anyhow, and would probably make more money by tapping and selling the product to an American, but the Moros are kept at the man hunting and rubber hunting by Piang. The Chinese advice and the Chinese blood in him keeps him in pursuit of gain at the expense of the Forestry bureau and civilization.

You will naturally ask if this is all true, why do I remain here. Well, I have been over here more than three years, and have my family, and while I believe with Carlyle, that every people has the government that it deserves to have, he did not mean military rule, and I have an abiding faith in what is right and just coming in the end. If a thing is wrong it cannot last, and sooner or later the American people will do what is right, and then the country will be taken out of the hands of Chinese and murdering dattos, and will be exploited by American brains and energy and capital.

I mention all these things to show you how hard it is for an American trader. But difficulties are only made to be surmounted. I have now made arrangements with several dattos, as well as some mountain tribes, to handle all their Gutta and Rubber, and have told them if any of Piang's men ever

* The article which appears above is made up of extracts from a letter addressed by an American trader at Cottobatto, island of Mindanao, to Messrs. George A. Alden & Co. (Boston), and used by the courtesy of that firm.

interfered with them to let me know at once, and the Americans will protect them. It is very hard to make them realize that the Americans will punish Piang for robbing them, as they think the former are the police of the latter. However, I think, with sufficient capital to work with, I could buy all the Gutta and Rubber that leaves here every month, namely about 300 piculs, of 137 pounds each, or roughly, 30,000 to 40,000 pounds monthly.

The Forestry bureau is going to do something definite about the cutting of trees soon,—if they prohibit it and can prevent the Gutta from reaching market unless it is tapped, the export will shrink very considerably. If the Bureau determines the trees can be cut instead of tapping, the export will increase considerably.

A LARGE YIELD OF MEXICAN RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am in receipt of your favor, inquiring for particulars regarding the tree that produced 100 pounds of rubber in one year. The tree in question is on a tract of mahogany timber which I am cutting, and as there are many large Rubber and Chicle trees on the place, I had some of them bled. One day the men brought in a batch of 100 pounds, saying that they took it all out of one tree. I made no investigation, because there was no reason to doubt them. There was no object in their saying so if it was not true, they being men who do no other kind of work, and as I am not interested in growing rubber it was immaterial to me. All I wanted was the product, and knowing that there are a number of mammoth rubber trees on the place which produce sap that congeals "large," I believed them, as a matter of course.

Since Mr. Bonestell and Mr. Ellsworth called on me in regard to the matter, I have asked the overseer if he was positive that the quantity of rubber all came out of one tree, and he repeated that he is positive of it. That is all that I know about it. The tree was bled and the sap allowed to run down and congeal into "slabs." It had no other preparation. I did not think it anything very remarkable, because I had seen trees produce very large quantities.

True the "rubber people" consider 12 or 14 pounds a good quantity for a tree to produce, but they plant in land which is selected because it is easy of access, instead of that which contains soil suitable for growing rubber. There is a vast difference in soil even in the same localities, and one tree will produce much more than another; some soil will produce large trees with very little sap, others lots of sap but very little rubber. It is no trouble to raise rubber trees. They will grow almost anywhere (I have seen them in the state of Illinois); the trouble is to get them to produce rubber in paying quantities, and that can only be done by selecting soil adapted to such trees.

I am no expert, but have been cutting timber long enough to know that, and have found a vast difference in the production of rubber trees in the different sections of Mexico and Guatemala. The tree referred to is on the Mexican side of the Usumacinta river, about 120 miles above the town of Tenosique and can be seen. I don't know of any way to verify the fact that it actually produced the 100 pounds except to interrogate the overseer and the men that bled the tree. I did not see the rubber taken out but have no doubt that their assertion is true. Yours respectfully,

F. SCHINDLER.

San Juan Bautista, Mexico, March 30, 1902.

[THE above letter, from Señor Federico Schindler, an exporter of Mexican products, results from correspondence grow-

ing out of advertisements issued by Mr. A. J. Scott, of Chicago, stating that 100 pounds of rubber had been obtained from one Mexican rubber tree at a single tapping. Meanwhile other statements have reached THE INDIA RUBBER WORLD from the Amazon valley [see issue of April 1—page 213], regarding a much greater productive capacity of the *Castilloa elastica* than had previously been recorded. While it would hardly be safe for rubber planters to base their hopes of profits upon such extraordinary yields, we should be pleased if every one of them, at sometime, was rewarded with even a greater production than that reported by our correspondent.—THE EDITOR.]

SOUTH AMERICAN RUBBER INTERESTS.

A LETTER received by THE INDIA RUBBER WORLD from the Amazon states that "On the Acre the foolish pranks of the Brazilian consul have upset things so much that very little rubber has been received from that quarter, although reliable information has been received [March 15] stating the existence of 5000 tons, mostly Caucho, awaiting shipment."

Arrivals of rubber at Manáos during the first three months of 1902, from the different rivers in the state of Amazonas, were as follows:

Purús.....	kilos 4,424,837
Jarua.....	1,840,748
Solimões.....	729,446
Madeira.....	1,010,482
Various streams.....	239,290

Total.....	kilos 8,244,803
Total, same months, 1901.....	6,991,286
Total, same months, 1900.....	7,779,985

A correspondent at Manáos wrote recently that many persons there were hoping for an advance in prices, and were for that reason holding back rubber. Business was depressed, and the large houses were not disposed to sell goods except on strictly cash terms. The inspector of the treasury, Colonel Felipe Minhões, and Dr. Portirio Nogueiro, secretary to the governor, had gone to the United States to try to negotiate a loan of \$1,000,000, in return for which, it was rumored, the lender would have very desirable concessions in respect to export duties on rubber. A law had been introduced in the congress at Manáos to substitute a fixed duty of 2 or 3 milreis per kilo for the existing *ad valorem* rate of 22 per cent.

The *South American Journal* (London, April 12) contained advices from Pará stating: "A most important move in the rubber business is about to be made by a Peruvian, named Spinoza, who arrived here a few days ago from Iquitos, bringing with him 70 workmen who understand working Caucho." The idea appears to be that, on account of the exhaustion of extensive Caucho fields in Peru, increased attention is being given to Caucho in Brazil, where the preparation of the gum is not understood, while the Peruvians are expert in it. It is reported to be probable that on the Tocantins and other large rivers in the state of Pará "large quantities of Caucho will be found, and now that a commencement is about to be made, the result will probably be an immense increase in the production of Caucho in the next few years."

The newspapers of Rio Janeiro, Brazil, bitterly condemn the concession granted The Bolivian Syndicate [mentioned in the last INDIA RUBBER WORLD], covering the rubber districts on the river Acre. *La Gazeta de Noticias*, of April 12, says "the system finds ready imitators, and that the Yankees will soon be the actual owners of many regions in South America, where they at present exercise a kind protectorate, without tolerating a rival, the excuse being the Monroe doctrine, which excludes all European nations from America."

THE SAFETY INSULATED WIRE AND CABLE CO.

THIS company, after having operated under a New York charter since 1888, was incorporated April 16, under New Jersey laws, with \$1,500,000 capital. The new corporation has been formed under direction of a syndicate organized by Zimmerman & Forshay, bankers of New York, to acquire all the property of the old company, at present manufacturing in West Twenty-eighth street, New York, and to provide increased facilities, and about \$300,000 additional working capital, for the extension of the business. The success of the original company had its inception in the perfecting of machinery for the seamless covering of wires for electrical purposes, with special rubber insulating compounds. In addition to making wires and cables for leading traction, electric light, power, telegraph, and telephone companies, a submarine cable department was added some three years ago, since which time several hundreds of miles of ocean cables have been made for the United States government in the Philippines and elsewhere, and an important order is now being executed for a foreign government. The present factory (embracing ten buildings 25x70 feet, rented), notwithstanding it has been operated night and day for three years, has been unable to meet the growing requirements of the company. Hence the company, in 1899, purchased for \$100,000 cash, 13 acres of water front property at Bayonne, New Jersey, upon which the necessary brick buildings have been erected for the accommodation of the machinery now in the New York factory, the lease on which expires May 1, 1902. The two main buildings at Bayonne are two stories high and 500 feet long. The boiler house (with 150 foot brick chimney) has a capacity of 1600 HP. Sterling boilers. The engine now completed, of 500 HP., will supply the main power, and additional engines for driving dynamos for the supply of light, and power to some of the machines, have been purchased. To meet the demands for deep sea cable, armoring machinery of the latest design has been constructed in England especially for the company.

The treasurer of the old company, Leonard F. Requa, having determined to retire from business, arrangements were made with him for the purchase of the entire capital stock (2500 shares). He will, however, be a member of the board. B. M. Whitlock, who had been president of the company, will remain with the new corporation in charge of its affairs, subscribing for a substantial amount of its securities. The force of salesmen, electricians, and foremen of the old company will be retained. Of the authorized capital stock of \$1,500,000, there will be retained in the treasury for the present \$500,000. One million dollars of an authorized \$1,250,000 first mortgage 6 per cent. sinking fund gold bonds will be issued, the balance being also left in the treasury, not to be used except to acquire additional property or for working capital.

It is stated that the Safety Insulated Wire and Cable Co. have made a net profit during every month of their existence. The recent net earnings, after deductions for questionable accounts and depreciation of plant, are stated to have been \$133,355.99 in 1900 and \$142,472.79 in 1901. The company was stated recently to have unfilled contracts on its books amounting to \$1,352,000.

The founder of The Safety Insulated Wire and Cable Co., was Leonard F. Requa. It was his ambition to produce a wire having an insulation composed of Pará rubber compound which could be applied to the electrical conductors in a seamless form,

and, after experimenting for some eighteen months, he succeeded in accomplishing what he desired. The finished product was first submitted to George G. Ward, of the Commercial Cable Co., who saw at once the advantage of having a seamless wire, and when the Safety company was organized, Mr. Ward gave it the name which it now bears. Hector de Castro, who was then president of the Commercial Cable Co., became the first president of the Safety company. He was succeeded by Horace K. Thurber.

The Safety company was organized in 1888 with \$15,000 borrowed money, of which \$7,500 was contributed by Mr. Thurber, and \$7,500 by Henry E. Hawley, of the firm of Carter & Hawley. At the time these gentlemen loaned the money, they thought it was enough to lose if it was not a success, but should it have the merit it was thought to have and more money was required, they would willingly advance the same. Mr. Requa was appointed general manager, and before \$8,000 of the \$15,000 had been expended, he was enabled to show these gentlemen that there was a small profit in the business, over and above the expenses.

The two first orders that were received by the Safety company were from the New York Telephone Co., one dated June 26, 1888, for five miles of No. 18 Brown & Sharpe gage insulated wire, and this order was followed on June 29, 1888, for fifty miles. The receiving of the second order convinced the gentlemen connected with the company that there was merit in the invention, and that the company would succeed.

Soon after this, the telegraph wires in New York were ordered underground by the then mayor, Hugh J. Grant, and the engineers in charge of the electric lighting companies were convinced that the process of applying the insulation to the conductor in a seamless form was much safer for carrying their high current than any other wire then manufactured, the result being that the Safety company were taxed to the utmost capacity to fill orders for underground cable to take the place of overhead wires. The company have been enlarging their plant and increasing their machinery from that time to this, until it has become the largest insulating wire company in the United States, and compares very favorably with the older companies in Europe.

Mr. Requa has filled the different positions in the company of general manager, vice president, treasurer, and president. He gave the strictest attention to the business in all its details, and in the early years of the company frequently was at his office until 12 o'clock at night. He was the manufacturer, salesman, and collector until the business had assumed such large proportions that he was obliged to gather a staff of salesmen, and create departments for the different branches in the electrical line.

The government work department was placed under the management of Ira W. Henry; the telegraph and electric light department in charge of Avery P. Eckert; and the telephone department in charge of Herbert T. Richards, who ably aided Mr. Requa in the development of the business. The Safety company are now shipping their product to all parts of the United States and to different parts of the world, and during the Spanish-American war came to the front and demonstrated to the United States government that submarine cables could be manufactured by them and be equally as good as any that were manufactured in Europe.

A BELGIAN VIEW OF RUBBER PRICES.

FROM "LA GAZETTE COLONIALE" (BRUSSELS.)

IT is a generally accepted opinion that a growing increase in the production of Caoutchouc necessarily means a constant decrease in the market value of the product. In a recent article [February 23, 1902] we have shown that the Congo, owing to its incalculable and inexhaustible natural riches, as well as to the means taken to assure not only the preservation but the extension of these riches, constitutes truly the last reserve stock of Caoutchouc from which, in the future, the world's supply will come.

The question may be raised whether a great increase in the crop would not cause, in a short time, a depreciation in price, considerable enough to seriously affect the position of the numerous enterprises which are engaged in this manufacture. There is no ground for alarm in this, for the production, however great, will always be below the demand; it is the ancient law of demand and supply. Looking back on the era of high prices obtained for Caoutchouc, it is interesting to note that, during this exceptionally advantageous period for the producers, not only did the existing manufacturers of Caoutchouc maintain their degree of activity, but that new establishments were created, while old ones made important extensions.

Considering now how the industry will be affected by a period of at least a year of prices less advantageous for the producers—it is no less interesting to note that the belief in a continuation of this prosperity of the Caoutchouc industry is not based upon the diminution of the price attained for certain kinds of Caoutchouc, and this is because the diminution is relatively small. In fact, slight fluctuations in the way of advance and decline have no influence on the situation of the industry taken as a whole.

These considerations, which are the substance of an article published by that very competent review THE INDIA RUBBER WORLD, of New York, establish the fact that if a sufficiently important decline should take place, the demand for Caoutchouc would increase immediately to a degree which the larger production could not keep up with; but, as the before mentioned review very justly remarks, products of such general use and indispensable character as Caoutchouc are always high in price, and the fluctuations which affect the market for this article, and which are often the result of local circumstances, should not cause any fear of a decline which could injure, even at a distance, the standing of the capital involved in the gathering of this precious gum. And, supposing that an important decline were possible, an enormous recrudescence of the demand, called forth by an immediate extension of the industrial uses of the product, would not fail to reestablish the equilibrium, only momentarily affected.

It may be remarked on the other hand, that a decline of the price resulting from a depreciation of the quality of the Caoutchouc need not be apprehended. All the working companies make it a point to teach the black workmen rational processes of harvesting, the practical application of which will gradually have the effect of putting purer gum on the market, which will be less pitchy, and of a texture constantly improving in tensile strength and flexibility. The exploitation of Caoutchouc, far from being on the decline, as some seem to think, is at its dawn, and a vast future is in store for it.

AMONG uses of Gutta-percha mentioned by Henry A. Reed in the New York Times, is that in electrotyping, to get impressions for duplicating, and by the United States government for gun impressions in gun testing.

NEW TRADE PUBLICATIONS.

NEW JERSEY CAR SPRING AND RUBBER CO. (Jersey City) have issued a new illustrated price catalogue of their Vulcanized Rubber Goods. This company was incorporated in 1858, since which time not only have the facilities of the factory been extended continually, but the character of the products has at all times been kept in conformity with the demands of the most progressive elements of the trade. Not a few of the items listed in this book are manufactured under patents owned by the company, and each new issue of their catalogue embraces something new. [4"×6½". 118 pages.]

THE REPUBLIC RUBBER CO. (Youngstown, Ohio) present as their first substantial trade publication an illustrated catalogue of Mechanical Rubber Goods that, in size, variety of goods listed, and in general interest of its contents, compares favorably with the lists issued by any of the older and larger companies. With regard to typographical effect, and particularly the character of the half tone illustrations, this catalogue is really in advance of any other that has appeared in the mechanical goods trade. It is in good taste, however, without resort to color printing or striving after ornate effect. There are 202 items illustrated, under serial numbers. Prices are given, together with much information of assistance to customers in placing orders, as well as in using and caring for the goods when purchased. The list covers belting, packing, gaskets, hose, mats, matting, tires, tiling, rolls, soling, valves, washers, stair treads, jar rings, asbestos goods, grain drill tubes, and a long list of specialties. The catalogue is distributed to the Eastern trade from the New York branch, No. 47 Warren street. 6"×9". 120 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) have issued, under the title "Tire Talk," a neat pamphlet descriptive of their "Wing" solid tires, cushion, and detachable and puncture proof vehicle tires. [4½"×7¼". 8 pages.]

GRANBY RUBBER CO.—The Ames, Holden Co., Limited, sole agents (Montreal, Quebec), send us their illustrated catalogue of Rubber Boots and Shoes, with the prices which went into effect April 10. [3½"×5½". 64 pages.]

THE BERLIN RUBBER MANUFACTURING CO., LIMITED (Berlin, Ontario), send us their illustrated catalogue and price list of Berlin Rubbers, dated April 11. Their goods are offered at 30 per cent. discount until July 31, 1902, and at 25@5 per cent. from that date until February 28 next. [3½"×5¼". 64 pages.]

ALSO RECEIVED.

MARINETTE Iron Works Manufacturing Co., Marinette, Wisconsin=[Circular describing] Prescott Hose Reel.

Stroud Cushion Pad Co., Worcester, Massachusetts=Stroud Cushion Pad [Horse] Shoe. 8 pp.

Calumet Tire Rubber Co., Chicago=Calumet Rubber Horseshoe Pads. 6 pp.

Wirt & Knox Manufacturing Co., Philadelphia=Wirts Patent Tubular All Metal Hose Reels. 12 pp.

B. F. Sturtevant Co., Boston=Catalogue No. 119. The Sturtevant Exhaust Heads and Steam Traps. 8 pages.

The Mason Regulator Co., Boston.=The Mason Automobile Engine and Automobile Appliances. 37 pages.

THE Tehuantepec Rubber Culture Co. have placed on the river Trinidad, for facilitating their development work, a naphtha launch which the *Mexican Journal of Commerce* describes as the finest on that river. It is 500 feet long, and is finished in luxurious style. It has proved very serviceable, not only for its original purposes, but in towing barges and canoes to the plantation.

RUBBER INDUSTRY IN THE CENSUS.

CENSUS Bulletin No. 154, issued from Washington, is devoted to manufactures in Ohio for the period covered by the census—the year ending June 30, 1900. Bulletin No. 157 is devoted to manufactures in New Jersey. From these bulletins is compiled the following details regarding the rubber industry in the two states named—to correspond with the similar information for Rhode Island and Connecticut previously reported in THE INDIA RUBBER WORLD [December 1, 1901—page 78]:

OHIO.

[The first column gives the totals for the state, and the second the figures for the city of Akron.]

	OHIO.	AKRON.
Number of establishments.	19	8
Total capital.	\$5,989,129	\$4,642,890
Land.	\$306,369	\$279,603
Buildings.	\$124,033	\$56,874
Machinery.	\$900,911	\$24,444
Cash and sundries.	\$4,157,136	\$3,031,070
Salaried officers and clerks.	335	265
Salaries.	\$305,449	\$233,993
Average number wage earners.	3,565	2,677
Men.	2,571	2,098
Women.	905	574
Children under 16.	74	5
Total wages.	\$1,281,038	\$1,005,405
Miscellaneous expenses.	\$305,446	\$223,697
Rent of works.	\$3,110	\$300
Taxes.	\$38,217	\$34,550
Rent of offices, interest, etc.	\$204,119	\$188,541
Cost of materials.	\$4,757,204	\$3,571,677
* Principal materials.	\$4,656,270	\$3,484,391
Fuel and rent of power.	\$106,934	\$87,286
Value of products.	\$7,330,104	\$5,524,674

[* Including mill supplies and freight.]

Of the establishments outside the city of Akron 3 are credited to Cleveland, 2 to Toledo, 1 each to Cincinnati, Columbus, and Canton, and the location of 3 is not disclosed. In 1890 the census reported 7 rubber establishments in Ohio, with 658 wage earners, and products valued at \$1,486,777. The increase in value of products during the decade was 393 per cent. Of the total value of rubber products for the state, in 1900, Akron is credited with 75.4 per cent.

NEW JERSEY.

	Rubber Hose and Belting.	Rubber and Elastic Goods.
Number of establishments.	7	37
Total capital.	\$2,208,881	\$6,078,155
Land.	\$59,320	\$195,576
Buildings.	\$322,577	\$584,060
Machinery.	\$345,883	\$1,109,374
Cash and sundries.	\$1,481,106	\$4,099,345
Salaried officers and clerks.	77	261
Salaries.	\$174,412	\$378,013
Average number wage earners.	776	2,609
Men.	628	2,153
Women.	119	382
Children under 16.	29	74
Total wages.	\$398,492	\$1,150,503
Miscellaneous expenses.	\$98,906	\$409,202
Rent of works.	—	\$18,492
Taxes.	\$13,823	\$26,594
Rent of offices, interest, etc.	\$78,987	\$359,481
Contract work.	\$6,096	\$4,635
Cost of materials.	\$1,870,352	\$5,696,006
* Principal materials.	\$1,836,579	\$5,564,427
Fuel and rent of power.	\$33,773	\$131,579
Value of products.	\$2,800,145	\$8,458,274

[* Including mill supplies and freight.]

The New Jersey figures do not embrace details relating to two rubber boot and shoe industries. In this, and in various other cases, to give the details in these bulletins would reveal the state of the business of the firms to the public—which the census bureau is not permitted to do. The final reports of the census, however, will embrace the totals for the United States of the rubber boot and shoe industry.

The New Jersey bulletin states: "There were 37 establishments engaged in the manufacture of rubber and elastic goods in 1900, with 2609 wage earners, and products valued at \$8,458,-

274. In 1890 there were 12 establishments, 926 wage earners, and products valued at \$2,135,705. The increase in the value of products during the decade was \$6,322,569, or 296 per cent. This increase was greater than is shown for any other manufacture carried on in the state, excepting leather. In 1860 there were but 5 establishments reported, 1 in Newark and 4 in New Brunswick, and the products were valued at \$1,303,000. The great increase in this manufacture occurred during the three years between 1897 and 1900, and was caused to some extent by the consolidation of New Jersey companies with competing companies outside of the state, but it is chiefly due to the general industrial growth which so largely affected all industries during that period."

ADULTERATION OF BALATA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Having read in the March issue of your Journal [page 176] an article about the grading of Balata, in which I was very much interested, I take the opportunity of addressing you a few lines on the same subject, which may be, perhaps, of interest to your readers.

I have been dealing in block as well as in leaf Balata for about ten years, and have noted that Venezuela has exported block varied in quality. There have been exporters who have sent over to Europe mostly good quality, and others whose shipments have not been very carefully selected. It seems to me that Balata has been occasionally spoiled during preparation, and also that it has been wilfully adulterated.

There are two different ways in which Balata is formed. The one is in blocks of about 10 inches thick and about 50 inches long, and the other in irregular forms not so thick and often broken to pieces. The regular thick blocks have a clean, smooth appearance, while the others have a dark, rough surface. It has always been the case that some of these blocks of each size have contained substances which were of a most inferior quality. When such blocks are cut they spring like glass, and can easily be broken to pieces.

Of this kind of stuff, which does not seem to be a wilful adulteration no large quantities arrive. But there has turned up only during the last year a much more serious adulteration, which, if not suppressed, might become a very serious matter for the whole trade in block Balata. The producers mix more or less large quantities of sand with the otherwise clean and good quality. They take clean white sand, which cannot easily be seen, but which is more noticed by its heavy weight. It makes for the manufacturer a great deal of trouble to clean the Balata, and if it is not done properly the articles manufactured will be spoiled. Such sandy blocks contain 10 to 15 per cent. of sand. The sand does not even appear to be on the one side of the block, as might be the case were the sand mixed with the Balata by mere chance in laying it down on the ground. But it is through the whole block; in fact, mixed with the Balata when boiling. As the importers in Europe have to make heavy allowance for such adulterated Balata, it is to be hoped that steps will be taken in Venezuela to stop this practice.

GUSTAV F. HÜBNER.

Hamburg, April 11, 1902.

Broker.

BOGUS RUBBER TREES.—E. S. Van Court, in a report on La Zacualpa rubber plantation, in the state of Chiapas, Mexico, writes that a tree known locally as the "guarumbo" grows profusely in that region, and greatly resembles the rubber tree. He says: "I am told that by means of this tree an English corporation was swindled out of £600,000 in the state of Oaxaca."

RUBBER NOTES FROM EUROPE.

THE mackintosh manufacturing firm of J. Mandleberg & Co., Limited (Manchester), have been able to pay dividends of 7 per cent. on their preference shares and 17½ per cent. on the ordinary shares, from the profits made in 1901, and to carry forward £17,178 14s. 4d., against £19,952 9s. 4d. carried forward last year.

=The offices of the Velvrl Co., Limited, have been removed to 29 New Bridge street, London, E. C., and the company have acquired the plant, machinery, stock, etc., of the Kingscote Co., Limited. After having made considerable additions to the machinery and plant situated at Lonesome, Streatham common, they are now doing a largely increased business.

BRITISH RECOVERED RUBBER.

THE Rubber Chemical Co., Limited (Mitcham, England), send to THE INDIA RUBBER WORLD samples of two high grade qualities of recovered rubber that are all that could be desired. They are labelled "Special Red" and "Special Drab" and show great strength, both in the crude state and after vulcanization (5 per cent. of sulphur being added). No price is quoted, but if that is right the company will have no trouble in marketing all they can make.

BRITISH RUBBER MANUFACTURERS' ASSOCIATION.

THE officers for the current year are:

Chairman--DAVID MOSELEY, David Moseley & Sons, Manchester.

Vice-Chairman--PHILIP ARTHUR BIRLEY, Charles Macintosh & Co., Limited, Manchester.

General Committee--* J. COOPER, The Dermatine Co., Limited, London; H. HEATON, JR., The Gorton Rubber Co., Limited, Manchester; J. E. HOPKINSON, J. E. Hopkinson & Co., Limited, West Drayton; * F. W. INGRAM, J. G. Ingram & Son, London; * P. H. LOCKHART, W. & A. Bates, Limited, Leicester; * G. C. MANDLEBERG, J. Mandleberg & Co., Limited, Manchester; * H. G. TIPPETT, The Liverpool Rubber Co., Limited; * J. TINTO, Irwell Rubber Co., Limited, Salford.

Treasurer--J. E. BAXTER, The Leyland and Birmingham Rubber Co., Limited, Leyland.

Secretary--* F. B. KNOTT, accountant, 2 Cooper Street, Manchester.

[* Re-elected.]

A PUBLIC SPIRITED RUBBER MANUFACTURER.

SENATOR CARL MARET, managing director of the Vereinigte Gummiwarenfabriken Harburg-Wien, recently celebrated the twenty-fifth anniversary of his connection with the municipal council of Hamburg. Herr Maret took the freeman's oath in 1859; on March 1, 1877, he was elected administrator; in 1883 administrator-speaker; and in 1886 to the honorary office of senator. In honor of the senator and in appreciation of his long and meritorious work for the welfare of the city, an official banquet was held in the "rathskeller," where an address was presented, in recognition of his services. Among the tributes that have been paid by the citizens of Hamburg to Herr Maret may be mentioned the naming of Maret street for him.

MAPONITE, LIMITED, IN TROUBLE.

THIS company, formed in London in 1898, with £100,000 capital, and which acquired, at a reported price of £75,000, a patent (No. 2887 of 1898) issued to F. E. Macmahon, for a new compound, which he called "maponite," appears to have exhausted its funds, and there were recent directors' meetings to consider whether a reorganization could be effected. According to the original prospectus of the company: "It is estimated that upwards of 10,000,000 golf balls are manufactured each year. 'Maponite' balls can be supplied to the public at about half the cost of the best Gutta-percha balls." There is no indication that golf has lost in popularity meanwhile, but Gutta-percha balls still seem to be preferred to any substitute.

A RUBBER PLANTING OPPORTUNITY.

THE Mexican Tropical Planters Co., of Kansas City, Missouri, which has a body of 35,000 acres of land on the isthmus of Tehuantepec, adjoining its own plantations, will contract with purchasers of any of its land to plant the same to rubber and care for the same until the producing period. They recommend this as an excellent opportunity for those who are desirous of becoming interested in the cultivation of rubber without being troubled with the details of management until the productive period of the plantation is reached.

A RUBBER SHOE BOYCOTT.

THE rubber shoe industry is likely to be boycotted. The rubber shoe magnates have not been mindful of the power of the press, and may yet have reason to regret their negligence. Somebody in the trade sold a pair of rubbers to the editor of the Newburyport (Massachusetts) *News*, which rubbers failed to protect the journalistic understanding to the extent which dwellers along the Merrimac river demand—and the *News* man howled, The rubber shoe industry is "up against it" if it cannot answer the editorial conundrums from the *News* which follow:

"Why then do we, like dumb driven cattle, continue to foster such a vampire? Why can't we boycott altogether an industry which seeks to impoverish us, and which, by giving us wet feet before we know it, invites pneumonia, lumbago, consumption and kindred diseases, not all of which are covered by a health policy? Down with the tyrant! Off with the shackles of the monster! As a united and enlightened people, even if we have to wear cowhide boots the year round, let us show the rubber makers that we can live without them, and then see how long they can live without us."

RUBBER FACTORIES WITH MONEY TO BURN.

THERE must be some people in the rubber industry who are making a lot of money on the quiet. The facts are hinted at in a prospectus lately issued by the American Rubber Works Co. (New York), from which these extracts are made:

"A certain rubber company (it would not be fair to name) started three years ago with \$30,000 capital. It is now rated as worth from \$400,000 to \$500,000. During the past year it has expended in improvements over \$400,000 and has a surplus of \$200,000 after paying dividends at the rate of 50 per cent. per annum. It makes practically nothing but rubber tires for vehicles.

"Another company the writer has exact knowledge of was organized seven years ago; capital, \$90,000. In four years (even before good times arrived) it paid its stockholders \$325,000 in dividends and was then sold for \$1,000,000 cash; the next year it made \$480,000, and last year \$550,000. It makes hose, packing, etc., and the product of neither of these companies is protected by patents or the secret of a first class low cost compound."

VENEZUELA—Dr. Lucien Morisse, of Paris, who has made more than one expedition to Venezuela, to study the India-rubber and Balata resources of the Orinoco, and published reports on the same, will, according to the *Venezuelan Herald*, return shortly to Ciudad Bolivar, with the capital necessary for establishing a new enterprise, to be known in Paris as La Caroni Agricol.

NEWS OF THE AMERICAN RUBBER TRADE.

GLENDALE ELASTIC FABRICS CO. (EASTHAMPTON, MASS.)

AT the annual meeting, March 28, the following directors were elected: William G. Bassett, Harry E. Converse, George A. Alden, William Rapp, Joseph W. Green, Jr. The directors re-elected William G. Bassett president and Joseph W. Green, Jr., treasurer.

CHANGE IN PENNSYLVANIA AGENCY FOR FIRE HOSE.

THE Eureka Fire Hose Co. (No. 13 Barclay street, New York) have made a change in their Pennsylvania agency, but their interests in that territory will still be cared for by Mr. Henry R. Early, who is now connected with the firm of James Boyd & Brother, No. 14 North Fourth street, Philadelphia. This concern will hereafter carry a large stock of the Eureka Fire Hose Co.'s well known goods and can execute promptly all orders entrusted to it.

THE JOSEPH DIXON CRUCIBLE CO.

THE annual meeting of stockholders was held April 21 at Jersey City, New Jersey. The old board of directors was re-elected and in turn elected the following officers: E. F. C. Young, president; John A. Walker, vice president and treasurer; George E. Long, secretary; John A. Walker, Joseph D. Bedle, and William Murray, executive committee. The financial statement shows that the company have a surplus of \$1,300,000, with outstanding debts of about \$7000. The entire bonded debt has been wiped out, and it was decided to erect two buildings, at a cost of \$25,000, to provide for the increasing business.

AMERICAN CHICLE CO. COMMON DIVIDEND.

A DIVIDEND of 1 per cent. has been declared on the common stock, payable May 10, to holders of record at noon, May 5. A dividend of 1 per cent. was paid April 1, instead of the regular quarterly dividend of 2 per cent., which rate had been paid to January 2, 1902. The new dividend will offset the reduction noted last month.

AMERICAN MADE "LITHOPONE."

THE product known as "Lithopone," which has come into use on an important scale in rubber factories in the United States, was formerly chiefly imported. The Graselli Chemical Co. (New York), who were the first to introduce on the market Lithopone of American manufacture, announce that they are in a position to supply this material in any quantity that may be desired. They have been established for more than sixty years, and have been the pioneers in the American manufacture of various acids and chemicals which have met an important demand in the industries.

AMERICAN RUBBER WORKS CO.

THIS company has advertised lately a limited amount of its common and preferred stock, at a slight concession, to obtain working capital. The company was incorporated September 10, 1901, under New Jersey laws, to manufacture patented tires, and has leased the plant of the New Brunswick (New Jersey) Tire Co. The authorized capital is \$1,000,000, of which \$200,000 is 7 per cent. preferred stock and \$800,000 common stock, all of the par value of \$25 per share. Isaac S. McGiehan, lawyer, of No. 277 Broadway, New York (which is the advertised office of the company), is president; George H. Huntington, treasurer; George H. Sanford, secretary; and J. W. Wilcox, general superintendent. The company state that they have ten 17 year patents on their carriage and automobile tires, besides which

"the inventor of the tire has made a chemical discovery in the mixing of rubber (which will be kept a secret) that brings the cost of commercial rubber down to less than one half the cost of any rubber compound made by manufacturers in the rubber goods trade, and at the same time enables it to produce better goods." The company are prepared also to manufacture air brake hose and other lines.

COLONIAL RUBBER GOODS CO. (FRANKLIN, MASS.)

THE plant of this company, engaged in the reclaiming of rubber, was closed early in the past month, for an indefinite period. The company made an assignment in March to W. O. Underwood, of Boston, on account of the failure of an important stockholder, but it was hoped for awhile that this would not make necessary the closing of the factory, which at the time was running overtime. A later report is to the effect that the management are hopeful of being able to make a settlement with their creditors, which will make it possible to continue business and increase the plant materially.

MILLTOWN INDIA RUBBER CO. (MILLTOWN, N. J.)

APPLICATION has been made by three creditors, to have this company declared bankrupt. It is the company organized in 1900 by the late John C. Evans, to manufacture rubber boots and shoes, and the factory has not been in operation since the death of Mr. Evans. The creditors are George F. Kohlhepp, secretary of the company, and W. S. Strong and W. R. Reed, local merchants. Their claims amount to \$6400. W. E. Florence has been appointed receiver, pending the determination of the application to have the company declared bankrupt.

LATIMER TIRE AND RUBBER CO. (CHICAGO.)

IN the United States court, at Chicago, on April 16, Judge Kohlsaat appointed E. B. McKey receiver in bankruptcy for the assets of the Latimer Tire and Rubber Manufacturing Co. Previous to this order a petition to have the concern declared bankrupt was filed by Charles E. Lawton of Pawtucket, Rhode Island, who presented a claim for \$8733. He claimed that the concern is insolvent and that its officers have made preferential payments.

REMOVAL—WILLIAM SOMERVILLE'S SONS.

THE above firm, long established at No. 68 Pine street, New York, will vacate the same on this date, having secured Nos. 118-120 John street for office and salesrooms and Nos. 233-235 Pearl street for warehousing. This will give them many times the floor space occupied formerly, and permit them to carry larger stocks, especially of imported goods. The Messrs. Somerville have become very extensive dealers in rubber scrap of all kinds.

FOREIGN RUBBER SCRAP.

IN regard to European scrap W. C. Coleman, of Boston, reports [April 10]: "Perhaps it would be interesting to know that quite a number of the German rubber manufacturers are beginning to buy goloshes. My principals inform me that they are securing what would be equal to 7 cents per pound c. i. f., in this country, at the present time. In view of the fact that domestic goods are plentiful at 7 cents, also that on foreigners a tare allowance of 2 per cent. is made, while on rubber boot and shoe scrap in this country the manufacturers allow no tare, it would seem that the foreign price was unwarranted. It is conceded by reclaimers that the difference between foreign and domestic is about 1 cent per pound in favor of the latter

On this basis, allowing 2 per cent. tare on foreigners, domestic, should be bringing about \$8.65 per 100 pounds. I do not believe that any great quantity has been taken up by our foreign friends at the price my principal informs me he made sales at, and I do not think that this price should be taken as a criterion of the market."

"April 29.—Both the American and foreign markets for old rubber boots and shoes seem to be advancing. The reclaimers are offering 7½ cents for domestics against 6½ cents for foreigners. Retailers are inclined to ask ½ cent above these quotations, and it looks as if the latter would be successful."

THE TRADE IN RUBBER SPONGES.

ABOUT a year ago the head of a firm of dealers in brushes in New York, while visiting Paris, was favorably impressed with a line of rubber sponges and imported 36 dozen. "They gave such satisfaction," said a member of the firm to THE INDIA RUBBER WORLD, "that we at once ordered a large quantity from the manufacturers, but before the goods could arrive we had sold all of them and forwarded a second order. Since then we have found it impossible to secure the goods fast enough. At present we have orders for 1500 dozen more than we have in hand." These goods are handled in smaller amounts by some other New York importing houses, but the head of the firm mentioned is now in Europe attempting to secure the extensive American agency.

A CORRECTION FROM AKRON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your April issue you have a paragraph announcing the assignment of the Independent Rubber Co. and giving my name as one of the partners, which I wish you would please rectify. I was not a partner in the company; I had charge of the shop, and as I expect to start up myself again in a short time I do not like to have that stand against me.

EDGAR L. CLIMES.

Akron, Ohio, April 20, 1902.

METROPOLITAN RUBBER CO.

APPLICATION was made at New Haven, Conn., on April 11, for a receiver for the Metropolitan Rubber Co., which is capitalized at \$250,000. The application was filed by W. R. Evans (Everett, Mass.) and James F. Storrow and Robert F. Herrick (Boston), trustees of the estate of Abner J. Tower, formerly treasurer of the company. They hold 6700 of the 10,000 shares of the capital stock. Attorneys for the applicants are quoted as saying that the company is able to pay its debts in full. On April 11 George Gunn, of New Haven, was appointed receiver. The company started a good many years ago in the small plant of the Chauncey Rubber Co. (Reading, Mass.), their business growing until they were prepared to purchase a large factory at Wallingford, Conn., in addition to which they later operated a plant in East Grand street, New York, purchasing a great cigarette factory building for their use. They marketed an enormous quantity of goods at one time, and were practically the first people in the mackintosh business who started to make goods cheaper than anybody else, and were leaders in price cutting. Their mackintosh trade collapsed in time, after which their Wallingford plant became the property of the New York Insulated Wire Co., who now operate it.

AMERICAN BICYCLE CO.

COLONEL ALBERT A. POPE has resigned as chairman of the board of directors, though remaining a member of the board and of the executive committee.—The New York *Journal of Commerce* reported [April 5]: "In connection with the affairs of the American Bicycle Co., it is rumored in Wall street that the trust in order to pay the March coupon on its debentures

was compelled to sacrifice holdings of Rubber [Goods Manufacturing Co.] stock which were given to the company in exchange for one of its plants. It is also rumored that some of the same assets were previously sacrificed to secure money for pressing current needs at that time. These reports, however, could not be confirmed."—On April 9 blocks of American Bicycle stocks in the names of R. L. Coleman, A. A. Pope, and A. G. Spalding were delivered in Wall street, on sales made the previous day. Colonel Pope had been understood to be the largest bondholder and the largest shareholder in the American Bicycle Co.—New York Stock Exchange quotations lately have been as follows:

DATES.	COMMON.			PREFERRED		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 29	2,878	4	3½	3,159	19¾	18¼
Week ending Apr. 5	19,650	5¾	3¾	9,661	22	19
Week ending Apr. 12	30,505	8	5	15,264	25	21½
Week ending Apr. 19	25,560	8½	6¾	12,215	26½	23½
Week ending Apr. 26	19,820	8½	6¾	10,425	26½	25

American Bicycle bonds have been sold recently at 80. Last year's sales aggregated \$868,000—highest, 82; lowest, 55; closing, 60.

AMERICAN TIRES FOR KING EDWARD VII.

IN view of a recently published statement that the king of England had decided, in order to prevent accidents from punctured tires, to have his motors equipped with solid tires, instead of pneumatics, the following letter to the New York manager of the Goodyear Tire and Rubber Co. (Akron, Ohio) may prove of interest:

THE DAIMLER MOTOR CO., LIMITED,
Daimler Works, Coventry, March 18, 1902.

MR H. J. DINGMAN, New York.—My dear Mr. Dingman: The tyres for His Majesty's car arrived to-day, and I have just been looking them over. I must certainly say that it is the finest piece of work in the line of tyres that we have ever seen. Upon inspection of these tyres, I feel convinced that we will have no trouble in persuading His Majesty to stick to pneumatics, instead of going over to solids.

I can say that we have been very successful in persuading most of our customers to use Goodyear tyres. About 90% of the new cars ordered have Goodyear tyres specified. All of these orders have not been placed with you yet, but will be in a very short time.

There are practically no odd sizes to be ordered, all being standard sizes, 36" by 4", 32" by 3½", the only odd sizes being 36" by 5". You can assume this as the coming size as far as our cars are concerned and it would be well if you would supply your London house with as large a stock as you deem permissible.

With kindest regards, I am, yours truly,

FOR THE DAIMLER MOTOR CO., LTD.,
PERCY MARTIN, Works Manager.

The Goodyear company have opened a warehouse at 5, 6 and 7 Singer street, London, where is carried a full stock of their bicycle, motor cycle and motor tires, and a repair outfit is maintained.

RUBBER SHOE TRADE IN MANITOBA.

AN important boot and shoe jobbing business has grown up at Winnipeg, the outpost of western Canadian trade, incidental to which is a large volume of trade in rubber footwear. The Ames, Holden Co., established there since 1878, sell the products of the Granby Rubber Co.; Kilgour, Rimer Co., Limited, established since 1880, are sole western agents for The Maple Leaf Rubber Co.; the Alfred Dolge Foot Wear Co. are agents for the Boston Rubber Co. of Montreal, Limited; Middleton Brothers are agents for the Berlin Rubber Manufacturing Co. The western branch of the Canadian Rubber Co. of Montreal was established at Winnipeg in 1891, and now occupies a building of their own (40 × 90 feet) in Princess street, with three

stories and basement. Besides rubber boots and shoes, a full line of rubber goods is carried. The western division of the Canadian Pacific railway is supplied with steam hose and packing from this branch, and three travelers are employed.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 22	11,130	18 $\frac{3}{8}$	15 $\frac{1}{2}$	9,750	63 $\frac{3}{4}$	56
Week ending Mar. 27	5,385	18 $\frac{3}{4}$	17 $\frac{3}{8}$	1,990	64	61
Week ending Apr. 5	1,600	17 $\frac{7}{8}$	16 $\frac{5}{8}$	770	60 $\frac{1}{2}$	59
Week ending Apr. 12	6,275	18 $\frac{1}{2}$	16 $\frac{3}{8}$	1,920	62 $\frac{1}{4}$	58 $\frac{1}{2}$
Week ending Apr. 19	4,438	19 $\frac{1}{4}$	17 $\frac{5}{8}$	1,120	63 $\frac{1}{8}$	60
Week ending Apr. 26	540	18 $\frac{1}{4}$	17 $\frac{7}{8}$	420	60	59

E. C. Benedict, broker, No. 80 Broadway, New York, was elected a director on April 9.

RUBBER GOODS MANUFACTURING CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 22	14,220	22 $\frac{1}{4}$	19	1,772	74	69 $\frac{7}{8}$
Week ending Mar. 27	4,705	22 $\frac{1}{8}$	20 $\frac{1}{2}$	325	72	71 $\frac{1}{8}$
Week ending Apr. 5	3,780	21 $\frac{5}{8}$	19 $\frac{3}{4}$	1,125	72	70 $\frac{1}{2}$
Week ending Apr. 12	30,910	24 $\frac{5}{8}$	20 $\frac{1}{2}$	5,196	74	69 $\frac{1}{2}$
Week ending Apr. 19	5,440	25	22	770	73	70
Week ending Apr. 26	14,320	25 $\frac{3}{8}$	23 $\frac{1}{2}$	700	72 $\frac{5}{8}$	72

NEW INCORPORATIONS.

WESTERN Rubber Co. (Goshen, Indiana), April 11, under Indiana laws, to manufacture rubber goods; capital authorized \$75,000, of which \$50,000 will be paid up. The company have purchased an unused factory building, with steam plant, and are negotiating for rubber machinery. Frank G. Hubbard is president; Theodore F. Garvin secretary and treasurer; and, Henry A. Middleton, an experienced rubber factory superintendent, manager. The directors, in addition, are: James A. Arthur, Lou W. Vail, George F. Alderman, and Ira Z. Mason—the latter of Toledo, Ohio, representing the capital subscribed in that city.

—The Safety Insulated Wire and Cable Co., April 16, under New Jersey laws; capital, \$1,500,000. Incorporators: Ira W. Henry, Le Roy Clarke, Jr., J. H. Lehman, S. Girard Fox, H. Godet, O. H. Nott, James F. Holder, A. Hobart Walton, James A. Maxwell. Additional details are given on another page.

—Munger Automobile Tire Co. (Trenton), April 24, under New Jersey laws, to manufacture tires; capital, \$300,000. This is a reorganization of the Munger Vehicle Tire Co., incorporated in New Jersey December 5, 1899, with an authorized capital of \$600,000, to manufacture tires under patents issued to Lewis de F. Munger. It was organized by Flint interests and the tires were made by the New Brunswick Tire Co. The new company have equipped a factory at Trenton. J. Oliver Stokes is president, R. V. Kuser vice president, and M. R. Margerum secretary and treasurer. The other directors are F. W. Roebbing, L. de F. Munger, T. M. Hilliard, A. R. Kuser, W. J. B. Stokes, Frank Hill, Fred Kuser, and J. L. Kuser. The Munger non collapsible pneumatic tire for motor vehicles has already been described and illustrated in THE INDIA RUBBER WORLD.

—Rubber Balloon Co. of America (Brooklyn, N. Y.), April 25, under New York laws; capital, \$50,000. Directors: W. W. Freeman, R. G. Brown, Daniel Harris, all of Brooklyn.

—Iroquois Rubber Co. (Buffalo, N. Y.), March, under New York laws, to succeed F. C. Howlett & Co., wholesale dealers in rubber boots and shoes. Directors: Frank C. Howlett (who will continue in charge of the business, as president and treasurer), and Eben H. Paine and Homer E. Sawyer, of the United States Rubber Co. There is involved no change in the manage-

ment of Mr. Howlett's rubber stores at Syracuse and Rochester, N. Y.

—The Walton Tire Manufacturing Co. (Walton, N. Y.) April 10, under New York laws, to manufacture rubber tires; capital, \$100,000. Directors: Alonzo B. Cornell, New York city; J. R. Townsend, Arlington, New Jersey; Roscoe C. Sanford, Albany.

—American Vehicle Tire Co., April 21, under New York laws; capital, \$250,000. Directors: Josiah Quincy, of Boston; G. T. Raymond and T. L. Freeman, of New York.

INTERNATIONAL RUBBER MANUFACTURING CO.

The plant operated formerly by the Straus Rubber and Tire Co., at No. 351 East Sixty-first street, New York, has been acquired by B. Loewenthal, Brothers & Co., who are planning to incorporate a company under the style of the International Rubber Manufacturing Co., to carry on the manufacture of mechanical rubber goods at that location.

TRADE NEWS NOTES.

THE Faultless Rubber Co. (Akron, Ohio) are about to increase their plant by the addition of a four story brick building, 150×50 feet. This large increase is made necessary by the popularity of many of their new specialties.

—The subject of arranging a plan for maintaining uniform retail selling prices for rubber boots and shoes in Ontario, is being considered by committees representing the Rubber Boot Shoe Jobbers' Association, the Merchants' Protective Association of Toronto, and the board of trade of that city.

—The I. B. Kleinert Rubber Co. (New York), whose purchase of real estate at College Point, Long Island, has been mentioned in these columns, have filed plans for a brick extension to their factory there, to be four stories high, and 150×86 feet.

—The Chaplain-McLean Rubber Co. (Butler, New Jersey) have filed with the secretary of state of New Jersey a certificate of dissolution. The company were incorporated March 28, 1899, with an authorized capital of \$100,000. The plant has been acquired by the American Hard Rubber Co., who already had a factory at Butler.

—R. H. Googins, of Boston, told a *Commercial-Gazette* reporter at Pittsburgh: "In the oil districts of West Virginia and Ohio the demand for rubber footwear has been unprecedented. This is an excellent market for our goods, and the year's sales, I think, will equal anything in the record of Pennsylvania."

—The Akron (Ohio) *Democrat* reports that Henri Ankersmit, of Bremen, Germany, visited that city lately and concluded to engage in the rubber industry. After buying a residence he was recalled to Germany by his business interests there, but he has since sent word that he hopes to return to Akron and establish a new rubber plant.

—Mr. George W. Sherman, the well known mechanical engineer, for some time connected with the rubber business, is now permanently located in Liverpool, England.

—The report that the Haskell ball does not appeal to British golfers can hardly be credited by players in America, as the sale here is so large that the department in the works of The B. F. Goodrich Co., where they are made is constantly behind orders, and is even now being enlarged to double its former capacity.

—The Emery Tire Co. (Providence, Rhode Island) have filed a suit for \$20,000 damages against Orville L. Leach, the inventor of the cushion vehicle tire which they are exploiting, on the ground that, contrary to his agreement with the company, he has not admitted them to an interest in a patent for an improvement of the tire.

=The Cataract Construction and Power Co., of Niagara Falls, have purchased a lot of land owned by the United States Rubber Reclaiming Co., but not needed in the development of their new reclaiming plant.

=The Trenton Rubber Manufacturing Co. have moved their New York office from No. 149 Church street to the Para building, corner of Duane and Church streets.

=Fred D. Zeigler, who had been assistant cashier of the Goshen Rubber Works (Goshen, Indiana) for some time, has been elected manager and general superintendent, to succeed Henry A. Middleton, resigned.

=The Illinois Rubber Co. a jobbing firm, at No. 258 Franklin street, Chicago, were damaged by fire on the night of April 12, to an extent reported at \$5000.

=The Brockton Rubber Scrap Co. (Brockton, Mass.), dealers in rubber cement waste, are represented in Boston by William C. Coleman, dealer and broker in old rubber, No. 170 Summer street.

=George H. Emmott, assignee of the Empire Rubber Co., lessees of the Model Rubber Co.'s factory at Woonsocket, Rhode Island, has paid the first dividend of 5 per cent., to the creditors, and hopes to be able to pay a second dividend of the same amount.

=The Rollins Engine Co. (Nashua, New Hampshire) shipped recently to the Cleveland works of the Mechanical Rubber Co. a steam engine of 500 H P. The same company supplied the Cleveland factory with a 300 H P. engine twenty years ago.

=The India Rubber Co. (Akron, Ohio) have made some six inch Wheeler endless solid rubber tires for the Chicago Fire Extinguisher Co., which are stated to be the largest rubber tires yet produced.

=The Omaha Rubber Shoe Co. (Omaha, Nebraska) have fitted up handsome new offices and sample rooms adjoining President Sprague's private office. The company say that business is good and fall orders all that could be expected.

=The Lyon Rubber Co. (Akron, Ohio) have a very well equipped plant now running on dipped goods in druggists' sundries lines. They have just taken some large orders for surgeons' gloves and are making a very excellent article. The active men in the concern are O. G. Lyon and A. D. Logan.

=Barberton, Ohio—the home of the Alden Rubber Co. and the Pure Gum Specialty Co.—has become a city. The first election, on April 7, resulted in the choice of E. M. Buel for mayor.

=The Indiana Shoe and Rubber Co. (Indianapolis) have changed their corporate name to "The Crowder-Mason Shoe Co." The company last year acquired the large boot and shoe business of C. H. Crowder & Co., Sullivan, Indiana. C. H. Crowder has been president of the Indiana Shoe and Rubber Co. and Hughes Mason vice president.

=The foreign demand for American manufactures is shown by orders from China and other remote countries recently placed with the Hazelton Boiler Co. (Rutherford, New Jersey.) The Hazelton boiler has straight, short tubes, easily kept clean.

PERSONAL MENTION.

THE Hon. Augustus O. Bourn, president of the New England Rubber Club, was among the speakers at the one hundredth monthly dinner of the Boston Boot and Shoe Club, at the Hotel Brunswick, Boston, on the evening of April 16. It was also the fourteenth anniversary of the club, and about 130 members were present, besides several special guests. Mr. Bourn made special reference to the opportunity for extending a foreign trade in American shoes.

=Mr. John J. Banigan is the controlling spirit in the Romoc

Company, of Boston, a well known and profitable patent medicine corporation.

=Mrs. Jane Louise Trowbridge Hotchkiss, wife of Henry L. Hotchkiss, president of The L. Candee & Co. (New Haven, Connecticut), died April 20 at her home. She was the daughter of Henry Trowbridge, the wealthiest West Indian merchant man of his generation in New England, and a great granddaughter of Noah Webster.

=Messrs. James H. Stearns and B. F. Sutton, of the firm of Parker, Stearns & Sutton (New York), are at Lake Spofford, New Hampshire. It will be remembered that Mr. Stearns owns the beautiful Pine Grove Springs House, so well known to many of the best New York families. It is a fine testimonial to the beauties of the lake and mountain scenery, as well as to the comforts of the great summer hotel named, that by the first of June, when the house opens, the same families and visitors every year begin to hasten to this delightful resort.

=Mr. H. N. Towner (Memphis, Tennessee) has been elected chairman of the permanent committee on excursions of the Business Men's Club of the city named. The first outing in view, which promises to be a brilliant success, is a trip to the Charlestown Exposition on May 20, which will celebrate "Memphis Day."

LORD KELVIN.

A DISTINGUISHED visitor to the United States at this time is Lord Kelvin, of England, who has been entertained by various scientific bodies since his arrival. Lord Kelvin was the engineer of the promoters of first projected Atlantic cable, and in honor of his important connection with the first cable successfully laid, he was knighted. At various times he has contributed to an important degree to electrical science, embracing many points bearing upon insulation problems. Though in his seventy-ninth year, Lord Kelvin is still hale and vigorous and still notable for his intellectual activity.

THE MARKET FOR RUBBER PAPER.

IN regard to the financial situation Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us as follows:

"The demand for paper during April has been rather light, and almost entirely from out of town banks, as an active demand for money in the city has kept city banks from buying much paper; rates have ruled at 5@5½ per cent. for the best rubber names, and 5½@6 per cent. for those not so well known."

ORINOCO SHIPPING.

THE Orinoco Steamship Co., incorporated recently in New Jersey with \$1,000,000 capital, took over the business of the Orinoco Shipping and Trading Co., of London. Morgan Olcott, of New York, who was managing director of the old company, has been elected president of the new. In reference to a statement published in England that the new company would become actively interested in India-rubber and Balata, in Venezuela, Mr. Olcott stated to THE INDIA RUBBER WORLD that such was not their intention. They were solely in the transportation business, with river steamers plying from Ciudad Bolivar to Trinidad, where freight was reshipped on ocean steamers. Balata formed an important item in the freights handled, however, and Mr. Olcott thought the supplies of this gum very extensive—much more so than the available supply of labor. The Orinoco Co., an American corporation formed in 1899, by kindred interests, to open mines and exploit Balata, have abandoned the extensive concessions granted to them on the Orinoco, and ceased to exist.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market for Pará grades has ruled steady, with quotations for Fine one point higher than at the beginning of April. The stock of old rubber is gradually being worked off at quotations, but manufacturers are not buying beyond current needs. It appears certain that the crop will materially exceed that of any former year. Pará receipts to April 22 (including Caucho) amounted to 26,370 tons for the year, and there remained of the year, to June 30, more than two months, with possible arrivals of 2000 or 3000 tons. Last year's total, to June 30, was 26,610 tons, and the year before 26,670 tons.

New York quotations on April 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	72 @ 73	Tongues.....	44 @ 45
Islands, fine, old....	74 @ 75	Sierra Leone, 1st quality	61 @ 62
Upriver, fine, new....	73 @ 74	Benguella.	45 @ 46
Upriver, fine, old....	77 @ 78	Cameroon ball.....	44 @ 45
Islands, coarse, new....	46 @ 47	Flake and lumps.....	29 @ 30
Islands, coarse, old....	@	Accra flake.....	17 @ 18
Upriver, coarse, new....	59 @ 60	Accra buttons.....	45 @ 46
Upriver, coarse, old....	@	Accra s rips.....	51 @ 52
Caucho (Peruvian) sheet	48 @ 49	Lagos buttons.....	45 @ 46
Caucho (Peruvian) ball	54 @ 55	Lagos strips.....	50 @ 51
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	51 @ 52	Madagascar, black....	@
Guayaquil, strip.....	47 @ 48	EAST INDIAN.	
Nicaragua, scrap....	51 @ 52	Assam.....	54 @ 55
Mangabeira, sheet....	43 @ 44	Borneo.....	33 @ 42

Late Pará cables quote:

Per Kilo.		Per Kil	
Islands, fine	4\$600	Upriver, fine.....	5\$300
Islands, coarse	2\$300	Upriver, coarse.....	3\$800

Exchange, 12d.

Last Manáos advices:

Upriver, fine.....	5\$000	Upriver, coarse.....	3\$300
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Exchange, 12 1/16d.

NEW YORK RUBBER PRICES FOR MARCH NEW RUBBER.)

	1902.		1901.		1900.	
Upriver, fine.....	72	@ 76	83	@ 86	99	@ 105
Upriver, coarse	58	@ 61	59	@ 60	75	@ 80
Islands, fine	70	@ 73	83	@ 84	98	@ 104
Islands, coarse	46	@ 48	45	@ 50	59	@ 64
Cametá, coarse	48	@ 53	53 1/2	@ 54	62 1/2	@ 65

Para Rubber Statistics (Excluding Caucho).

		NEW YORK.		Total		Total		Total	
		Fine and Medium.	Coarse.	1902.	1901.	1902.	1901.	1902.	1901.
Stocks, February 28... tons	700	4	=	704	695	654			
Arrivals, March.....	972	435	=	1407	2012	1590			
Aggregating.....	1672	439	=	2111	2707	2244			
Deliveries, March.....	1085	432	=	1517	1778	1604			
Stocks, March 31.....	587	7	=	594	920	640			

		PARÁ.		ENGLAND.			
		1902.	1901.	1900.	1902.	1901.	1900.
World's supply, March 31.....	1030	560	1995	1610	1025	449	
Pará receipts, July 1 to March 31.....	*3115	3923	3115	1190	1278	2156	
Pará receipts of Caucho, same dates							
Afloat from Pará to United States, March 31.				1232	1408	429	
Afloat from Pará to Europe, March 31.....				1600	1000	1374	

[* Receipts of Caucho, 540 tons additional.]

Liverpool.

WILLIAM WRIGHT & CO. report [April 1]: "Fine Pará—At the beginning of the month prices firmed up considerably, and the 3d. drop of last month was recovered; however, prices have since eased off 1 1/2d., but the market closes steady, with Upriver and Islands fine spot 3s. 1 1/2d. and May 3s. 2d. Holders of spot lots are firm, and should receipts fall in Pará next month, which they are expected to do, prices may go up. A good business has been done during the month, but there is no pressure either to buy or sell at the moment. Africans in good demand during the month, chiefly lump kinds, and a large business has been done at steady prices."

Less Rubber From Assam.

IN this table, the first column shows the exports of rubber from Assam, for six fiscal years, ending March 31. For the remaining six years is shown the "outturn" on which the government exacted fees during each year—practically the same thing:

YEARS.	Pounds.	YEARS.	Pounds.
1887-88.....	700,112	1895-96 ..	266,112
1888-89.....	628,208	1896-97.....	333,010
1889-90.....	505,232	1897-98.....	234,185
1890-91.....	468,720	1898-99.....	296,146
1891-92.....	399,056	1899-00.....	457,344
1893-94.....	302,848	1900-01.....	295,570

Rubber Exports from the Acre in 1901.

MONTHS.	Kilograms.	MONTHS.	Kilograms.
January.....	269,112	August.....	80,737
February ..	1,112,247	September.....	58,441
March	75,913	October.....	24,091 1/2
April	24,349	November.....	59,131
May.....	125,374	December.....	76,422
June ..	49,383		
July.....	77,222	Total.....	2,032,422 1/2

[Total in pounds, 4,471,374.]

The export duty on rubber from the Acre has been fixed at 15 per cent., *ad valorem*.

Lisbon.

RECEIPTS, January, February, and March (in tons):

	1900.	1901.	1902.
Benguella niggers.....	858	512	301
Loanda niggers.....	186	180	141
Congo thimbles.....	65	42	15
Other sorts.....	27	19	19
Total.....	1136	735	476

United States Crude Rubber Imports.

[JULY 1 TO MARCH 31.]

FROM—	1899-1900.	1900-01.	1901-02.
United Kingdom. pounds	7,077,804	5,341,123	4,837,062
Germany	1,426,588	1,079,175	1,350,639
Other Europe.....	5,540,439	4,944,030	6,152,336
Central America.....	1,056,033	937,313	861,715
Mexico	323,856	201,181	183,704
West Indies.....	11,120	33,731	28,392
Brazil.....	22,075,064	25,487,400	22,910,414
Other South America.....	1,424,161	983,535	1,065,024
East Indies.....	454,423	334,638	440,582
Other countries.....	56,235	31,031	36,004
Total India-rubber.....	39,445,723	39,373,157	37,859,872
Gutta-percha.....	281,546	207,602	316,882
Total.....	39,727,269	39,580,759	38,176,754
Value of Rubber.....	\$25,602,089	\$19,938,717	\$18,684,547
Average per Pound.....	64.9 cents.	50.7 cents.	49.3 cents.

Balata.

LONDON, April 11.—Twenty-six bags offered and sold. Demerara sheet, Pile 1, rough, 2s. 3d.; Pile 2, very rough, 2s.; rejections, 1s. @ 1s. 1½d.

London.

EDWARD TILL & Co., under date of April 2, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons —	—	—	—
Borneo.....	132	172	148
Assam and Rangoon.....	39	21	16
Other sorts.....	438	640	412
Total.....	609	833	576
LIVERPOOL { Pará.....	1821	1346	1344
Other sorts.....	896	1343	1184
Total, United Kingdom.....	3326	3522	3104
Total, March 1.....	3078	2989	1917
Total, February 1.....	2674	3129	1848
Total, January 1.....	2794	2901	1855

PRICES PAID DURING MARCH.

	1902.	1901.	1900.
Pará fine, spot ..	3/0½ @ 3/1½		
Do forward.....	3/1 @ 3/1½		
Do Upriver.....	3/6 ½ @ 3/7½	4/2½ @ 4/5	
Do Islands.....	3/6 @ 3/6½		
Negroheads, scrappy.....	2/5½ @ 7/-	2/6 @ 2/6½	3/3
Do Islands.....	2/-	1/11½ @ 2/1	No sales.
Bolivian.....	3/1 @ 3/2	No sales.	No sales.

APRIL 4.—No auctions this week. Easter holidays have interfered with business. Sales on a small scale; various transactions reported at easier rates, but not much pressure to sell. Prices lower, owing to increased visible supply. Spot and near Pará fine sold at 3s. 1½d. down to 3s. 0¾d., but no sellers under 3s. 1d. for April, 3s. 1½d. for May, and 3s. 2d. for June-July. Mollendo, six months old, sold 3s. 1½d. Peruvian ball 2s. 4½d.; slab, 2s. 1d.

APRIL 11.—At auction to-day considerable supplies brought forward, but demand slow and only a small portion sold, at rather lower prices. A fair quantity changed hands later. Since last report sales Pará fine hard cure 3s. @ 3s. 0½d, spot; 3s. 0¾d, to 3s. 1d. May-June delivery. Medium hard cure 2s. 11d. forward. Soft cure scarce; 10 tons sold 3s. 0½d., spot. Bolivian fine sold 3s. 0¼d. and Mollendo fine 3s. Scrappy negroheads, fair 2s. 6½d. and rather mixed 2s. 6d. Small sales Islands 2s. 0½d. @ 2s. 1d. Cametás scarce and nominal at 2s. 3d. Caucho ball 2s. 4½d.; slabs, 2s. 0½d. Madagascar fair black coated 1s. 5¼d. Mozambique weak white ball 1s. 8¼d. Ceylon, 6 cases fine from Pará seed 3s. 4½d. Assam fine red 2s. 1¼d.; good red rather heated 1s. 10d.; fair red sandy and heated 1s. 6d. @ 1s. 8d. Pontianak: 25 10d. packages, damaged, salvage from the *Asturia*, £9 15s. @ £12 7s. 6d. per ton.

APRIL 18.—No auctions this week. The market for Pará has been strong and dearer, and a considerable business has been done, prices closing at a full 1d. advance, including fine hard cure on the spot at 3s. to 3s. 1d., and for forward delivery at 3s. 0¼d. to 3s. 2d., according to quality. Soft cure continues scarce and in demand, with sales at 3s. to 3s. 1½d. Bolivian fine has changed hands at 3s. 1d. and buyers, and large sales of Peruvian fine at 2s. 11¾d. to 3s. 1½d. on the spot. Negroheads: small sales scrappy at 2s. 6d. to 2s. 6¼d. for fair; Cametás scarce and sales at 2s. 2½d.; Islands sold at 1s. 11d. to 2s. 1½d. according to quality. Peruvian ball, small sales at 2s; 4½d. and 10 tons slab at 2s. 0½d. Good medium kinds scarce and sell readily at full prices.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The sales at Antwerp during April were held on the 10th and 15th. The former included only 62 tons, mostly Kassai sorts, which ob-

tained unchanged prices. The latter, in which 490 tons were sold out of 519 tons, showed that there were many wants to be covered and its result may be considered as satisfactory, not only as regards the quantity sold but also as regards prices, which although somewhat irregular, according to the various qualities, are in the average equal to estimations; this means parity of the March sale. Amongst the principal lots were the following:

	Estimation.	Sold.
11 tons Lopori, per kilo.....	f 7.30	f 7.25
52 " Upper Congo strips.....	6.35	6 22½ @ 6.45
64 " Uellé.....	5.80	5.65 @ 5.80
50 " Aruwimi.....	5.75	5.75 @ 5.85
31 " Upper Congo balls.....	6.75	6.75
27 " Equateur.....	7.25	7.30
26 " Equateur.....	7.25	7.12½
16 " Upper Congo small strips.....	6.20	5.90
17 " Uellé.....	5.60	5.42½
33 " Mongalla strips.....	6.	6.12½
18 " Vengu.....	7.30	7.35

Since the first of the month sales amount to about 550 tons. Stocks on this date amount to 612 tons, of which 311 tons are being discharged by the *Albertville*.

C. SCHMID & CO.

Antwerp, April 16, 1902.

ANTWERP RUBBER STATISTICS FOR MARCH.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Feb. 28 Kilos	984,820	781,100	618,800	250,311	230,752
Arrivals March.....	258,131	560,052	416,278	250,081	166,910
Congo sorts.....	235,518	528,795	332,587	189,175	146,397
Other sorts.....	22,613	41,257	83,691	60,906	20,513
Aggregating.....	1,242,951	1,351,152	1,035,078	500,392	397,662
Sales in March.....	401,273	507,318	300,018	246,823	219,098
Stocks, Mch. 31.	841,678	843,834	735,060	253,569	178,564
Arrivals since Jan. 1	1,501,489	1,573,310	1,776,314	761,945	487,844
Congo sorts ..	1,436,687	1,493,293	1,475,996	647,231	434,355
Other sorts ..	64,802	170,017	300,318	114,712	53,489
Sales since Jan. 1 ..	1,074,520	1,343,515	1,333,245	771,716	403,743

ARRIVALS AT ANTWERP.

MARCH 18.—By the *Anversville*, from the Congo:

Bunge & Co.	(Comité Spécial Katanga) kilos	8,300
Bunge & Co.	(Domaine privé Etat du Congo)	136,400
Bunge & Co.	(Plantations Lacourt)	15,300
Bunge & Co.	(Sultanats du Haut Oubanghi)	3,500
Bunge & Co.	(Société Anversoise)	17,700
Société A B I R.....		34,000
Crédit Commercial Congolais.....	(Société La Lulonga)	8,700
Crédit Commercial Congolais (M. D'Heygere à Grand)		1,700
Ch. Dethier.....	(Société Belgika)	7,500
Ch. Dethier.....	(Société la Loanje)	4,600
Société Coloniale Anversoise (Belge du Haut Congo)		26,000
Société Coloniale Anversoise (Cie. des Mag. Gereraux)		2,300
L. & W. Van de Velde.....	(Comptoirs Congolaise Velde)	6,000
Cie. Commerciale des Colonies.....		2,300
		274,300

APRIL 10.—By the *Albertville*, from the Congo:

Bunge & Co.	(Société Isangi) kilos	6,500
Bunge & Co.	(Comité Spécial Katanga)	1,000
Bunge & Co.	(Domaine privé Etat du Congo)	208,000
Société Equatoriale Congolaise ..		8,000
Comptoir Commercial Congolais.....		35,000
Comptoir des Produits Coloniaux (Cie de Ekela Sangha)		3,000
Ch. Dethier.....	(Société Belgika)	1,000
Ch. Dethier.....	(Société la Loanje)	2,500
Société Coloniale Anversoise (Belge du Haut Congo)		29,700
Société Coloniale Anversoise.....	(Cie de Lomami)	10,800
Société Coloniale Anversoise.....	(Süd Kamerun)	3,200
W. Mallinckrodt & Co.	(Alimaïenne)	6,000
		314,700

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the first week in April the Hamburg market showed a material weakening in Pará sorts, and small transactions only, in fine

Bolivian, of old importation, at 6.85 @ 6.90 marks per kilogram are be noted. The reticence to buy future deliveries remained unchanged, although owners were inclined to make concessions. Small trading was done in Manáos scrappy negroheads at 5.90 marks, but larger quantities, spot, could be had at 5.80 @ 5.75 marks. Fine Mollendo, owing to limited arrivals, received slightly better attention. Orinoco virgin Pará, held at too high a figure, received no inquiries. Middle sorts, therefore, were much more in evidence, and notable shortages in Africans came to light, influencing prices materially. Much is to be hoped for from arrivals, so that large quantities cannot accumulate. The market was interfered with by the Easter holidays.

Hamburg, April 8, 1902.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

April 5.—By the steamer *Dunstan*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
Reimers & Co.....	501,300	169,600	174,300	75,100=	920,300
New York Commercial Co.....	331,100	75,000	101,700	56,900=	564,700
A. T. Morse & Co.	218,300	90,600	110,200	12,700=	431,800
United States Rubber Co..	34,300	12,400	6,400	45,100=	93,200
Boston Rubber Shoe Co..	34,300	12,400	6,300	44,800=	97,800
William Wright & Co.			29,100		29,100
New York and Java Trading Co.....	3,100		500	1,100=	4,700

PARA RUBBER VIA EUROPE.

MARCH 20.—By the *Nomadic*=Liverpool:

Edmund Reeks & Co (Fine)	2,600	
Edmund Reeks & Co. (Coarse).....	1,300	
Edmund Reeks & Co. (Caucho).....	1,800	5,700

APRIL 17.—By the *Teutonic*=Liverpool:

A. T. Morse & Co. (Coarse).....	18,000	
Ideal Rubber Co. (Fine)	2,100	20,100

APRIL 23.—By the *Oceanic*=Liverpool:

Edmund Reeks & Co. (Caucho)	8,000	
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OTHER ARRIVALS AT NEW YORK

CENTRALS.

MARCH 25.—By the *Finance*=Colon:

American Trading Co	4,400	
Hirzel, Felman & Co	3,500	
Dumarest & Co	2,300	
G. Amsinck & Co	2,200	
T. N. Morgan	1,500	
E. B. Strout	1,000	
Eggers & Heinlein	500	15,400

MARCH 26.—By the *Athos*=Greystown:

Edwin B. Strout	7,500	
D. A. De Lima & Co	6,000	
Lawrence Johnson & Co	800	14,300

MARCH 26.—By the *Pennsylvania RR.*=New Orleans:

G. Amsinck & Co	5,000	
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MARCH 31.—By the *Fuente*=Mexico:

H. Marquardt & Co	1,500	
Americau Trading Co	700	2,200

APRIL 1.—By the *Orizaba*=Colon:

Isaac Brandon & Bros	5,200	
Lawrence Johnson & Co	3,400	
Kunhardt & Co	1,800	
A. D. Straus & Co	1,000	
Pomares & Cushman	1,200	
Thebaud Bros	1,000	13,600

APRIL 2.—By the *El Valle*=New Orleans:

A. T. Morse & Co	7,500	
G. Amsinck & Co	800	8,300

APRIL 5.—By the *Niagara*=Mexico:

H. Marquardt & Co	7,000	
F. Probst & Co	2,000	
P. Harmony Nephews & Co	1,000	
Harburger & Stack	600	
American Trading Co	500	11,100

APRIL 7.—By the *Proteus*=New Orleans:

A. T. Morse & Co	11,000	
A. N. Rotholz	2,000	
Eggers & Heinlein	300	
For London	8,000	21,300

CENTRALS—Continued.

APRIL 8.—By the *Alone*=Greystown:

Edwin B. Strout	9,600	
Andreas & Co	2,000	
A. D. Straus & Co	1,500	
Lawrence Johnson & Co	1,200	
Jimenez & Escobar	500	
G. Amsinck & Co	500	15,200

APRIL 10.—By the *El Diti*=New Orleans:

A. T. Morse & Co	3,000	
Eggers & Heinlein	500	3,500

APRIL 10.—By the *Advance*=Colon:

Dumarest & Co	3,000	
G. Amsinck & Co	2,300	
Edwin B. Strout	2,200	
A. Santos & Co	1,100	
Ascensio & Cassio	1,000	9,600

APRIL 12.—By the *Esperanza*=Mexico:

H. Marquardt & Co	2,500	
E. Steiger & Co	1,500	
E. N. Tibbals & Co	200	4,200

APRIL 14.—By the *Altai*=Cartagena:

D. A. De Lima & Co	3,500	
Lawrence Johnson & Co	2,000	
G. Amsinck & Co	700	
Roldan & Van Sickle	200	
Kunhardt & Co	200	
Fox Brothers & Co	100	6,700

APRIL 14.—By the *Comus*=New Orleans:

A. T. Morse & Co	5,000	
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APRIL 15.—By the *El Alba*=New Orleans:

A. T. Morse & Co	3,000	
W. Loatza & Co	2,500	5,500

APRIL 17.—By the *Pennsylvania*=Hamburg:

Reimers & Co	1,100	
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APRIL 15.—By the *Alliance*=Colon:

Isaac Brandon & Bros	3,800	
H. Marquardt & Co	3,500	
R. F. Cornwell	1,900	
G. Amsinck & Co	1,600	
Edward Maurer	1,100	
E. Schellin & Co	700	
R. Fabien & Co	700	
E. B. Strout	600	
A. D. Straus & Co	500	14,400

APRIL 21.—By the *Monterey*=Mexico:

E. Steiger & Co	4,500	
Thebaud Brothers	2,500	
W. Loatza & Co	800	
L. N. Chemedlin & Co	300	
For Europe	7,500	
American Trading Co	1,500	
Grabam, Hinckley & Co	300	17,400

APRIL 21.—By the *Louisiana*=New Orleans:

Manhattan Rubber Mfg. Co	4,500	
A. T. Morse & Co	2,500	7,000

Hagemeyer & Brunn	2,600	
G. Amsinck & Co	1,000	200

Total.....1,123,400360,000 431,300235,700= 2,150,400

April 14.—By the steamer *Hilary*, from Manáos and Pará:

New York Commercial Co.....	192,500	61,800	97,600	24,100=	354,300
A. T. Morse & Co	41,500	14,400	88,400		144,300
Reimers & Co	23,900	4,300	22,300	29,400=	79,900
United States Rubber Co..	27,800	3,700	3,700	24,300=	59,500
Boston Rubber Shoe Co..	11,100	1,400	1,500	12,000=	26,000
Lawrence Johnson & Co..	34,200	5,400	3,600	8,600=	51,800
Edmund Reeks & Co				18,800=	18,800
Hagemeyer & Brunn				13,500=	13,500
G. Amsinck & Co	1,700		900		2,600

Total..... 332,700 91,000 218,000 109,000= 750,700

April 23.—By the steamer *Hildebrand*, from Manáos and Pará:

New York Commercial Co.....	178,100	40,700	66,600	21,300=	308,700
Reimers & Co	143,500	35,900	66,000	40,600=	285,400
A. T. Morse & Co	79,400	12,800	40,800		133,000
Edmund Reeks & Co	3,100	600	1,300	97,700=	102,700
United States Rubber Co..	40,900	10,700	4,900	35,000=	91,500
Boston Rubber Shoe Co..	24,100	6,600	4,000	17,400=	52,100
G. Amsinck & Co		1,400	2,400	6,000=	9,800

Total..... 469,100 108,700 186,000 219,400= 983,200

[NOTE.—The Steamer *Basil*, from Pará, is due at New York May 5, with 560 tons of Rubber and 70 tons Caucho.

CENTRALS—Continued.

APRIL 22.—By the *Finance*=Colon:

Hirzel Felman & Co	20,000	
American Trading Co	1,100	
Dumarest & Co	1,000	
Eggers & Heinlein	2,600	
G. Amsinck & Co	1,600	
D. N. Carrington	500	
W. R. Grace & Co	300	
R. Fabien & Co	300	26,800

APRIL 22. By the *Athos*=Greystown:

D. A. De Lima & Co	5,000	
Edwin B. Strout	3,000	
G. Amsinck & Co	2,000	
Punderford & Co	1,000	
A. D. Straus & Co	1,600	
C. A. Haynes & Co	500	
For London	300	12,800

AFRICANS.

MARCH 26.—By the *Peninsular*=Lisbon:

A. T. Morse & Co	188,000	
Reimers & Co	111,000	299,000

MARCH 26.—By the *Oceanic*=Liverpool:

George A. Alden & Co	26,000	
Reimers & Co	20,000	
Joseph Cantor	9,000	55,000

MARCH 28.—By the *Barcelona*=Hamburg:

George A. Alden & Co	23,000	
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MARCH 29.—By the *Patricia*=Hamburg:

Livesey & Co	25,000	
A. T. Morse & Co	22,000	
George A. Alden & Co	11,500	
Robinson & Tallman	3,500	62,000

MARCH 31.—By the *Umbria*=Liverpool:

Reimers & Co	34,000	
Joseph Cantor	2,500	36,500

APRIL 2.—By the *Canadian*=Liverpool:

George A. Alden & Co	78,000	
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APRIL 2.—By the *Southwark*=Antwerp:

Reimers & Co	28,000	
George A. Alden & Co	35,000	
Otto Meyer	2,500	6,500

APRIL 3.—By the *Majestic*=Liverpool:

George A. Alden & Co	14,000	
Otto Meyer	2,000	
Reimers & Co	10,000	
Joseph Cantor	7,000	40,000

APRIL 9.—By the *Pennland*=Antwerp:

Reimers & Co	61,000	
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APRIL 14.—By the *Patatia*=Hamburg:

Reimers & Co	10,500	
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AFRICANS—Continued.

Livesey & Co.	11,500	
A. T. Morse & Co.	10,500	32,500
APRIL 11.—By the <i>Statendam</i> =Rotterdam:		
George A. Alden & Co.	11,500	
APRIL 14.—By the <i>Saronia</i> =Liverpool:		
George A. Alden & Co.	27,500	
Reimers & Co.	11,000	38,500
APRIL 17.—By the <i>Teutonic</i> =Liverpool:		
George A. Alden & Co.	48,500	
Joseph Cantor	2,500	
Robinson & Tallman	2,500	53,500
APRIL 17.—By the <i>Dona Maria</i> =Lisbon:		
A. T. Morse & Co.	12,000	
APRIL 23.—By the <i>Oceanic</i> =Liverpool:		
George A. Alden & Co.	21,000	
Reimers & Co.	37,000	
Otto Meyer	9,000	63,000

EAST INDIAN.

PONTIANAK.

APRIL 12.—By the <i>Hilglen</i> =Singapore:		
William Wright & Co.	377,000	
George A. Alden & Co.	230,000	
Robert Brauss & Co.	193,000	
Reimers & Co.	190,000	390,000
APRIL 21.—By the <i>Indrani</i> =Singapore:		
R. Brauss & Co.	70,000	

GUTTA-PERCHA AND BALATA.

	POUNDS.	
MARCH 29.—By the <i>Patricia</i> =Hamburg:		
To order.	8,800	
APRIL 1.—By the <i>Mesaba</i> =London:		
Spaulding Manufacturing Co.	6,400	
APRIL 11.—By the <i>Palatia</i> =Hamburg:		
To order.	32,000	
APRIL 15.—By the <i>Menominee</i> =London:		
Spaulding Mfg. Co.	5,500	
BALATA.		
APRIL 15.—By the <i>Granje Nassau</i> =Surinam:		
George A. Alden & Co.	500	
APRIL 15.—By the <i>Menominee</i> =London:		
Robinson & Tallman	2,000	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MARCH.

Imports:	POUNDS.	VALUE.
India-rubber.	4,722,141	\$2,365,345
Gutta-percha.	17,866	18,158
Gutta-jelutong (Poolanak) ...	3,131,634	90,803
Total.	7,871,641	\$2,474,306
Exports:		
India-rubber.	224,861	\$146,644
Reclaimed rubber.	119,986	15,848
Rubber Scrap.	28,226	28,226
Rubber Scrap Imported.	1,281,574	\$77,301

BOSTON ARRIVALS.

	POUNDS.	
MARCH 1.—By the <i>Iternia</i> =Liverpool:		
Otto Meyer—African.	12,049	
MARCH 1.—By the <i>Kansas</i> =Liverpool:		
George A. Alden & Co.—African.	21,123	
MARCH 1.—By the <i>Lancastrian</i> =Liverpool:		
George A. Alden & Co.—African.	22,911	
MARCH 5.—By the <i>Deronian</i> =Liverpool:		
George A. Alden & Co.—African.	7,002	
MARCH 10.—By the <i>Sachem</i> =Liverpool:		
George A. Alden & Co.—African.	3,607	
MARCH 19.—By the <i>Merion</i> =Liverpool:		
George A. Alden & Co.—African.	3,340	
MARCH 19.—By the <i>Philadelphian</i> =Liverpool:		
George A. Alden & Co.—African.	6,762	
Reimers & Co.—African.	5,611	12,373
MARCH 25.—By the <i>Ullonia</i> =Liverpool:		
George A. Alden & Co.—African.	22,517	
MARCH 29.—By the <i>Friesland</i> =Antwerp:		
George A. Alden & Co.—African.	22,079	
Total March Imports.	127,001	
[Value, \$55,851.]		
GUTTA-PERCHA.		
MARCH 7.—By the <i>Brigavia</i> =Hamburg:		
C. H. Arnold & Co.	1,779	
MARCH 10.—By the <i>Sachem</i> =Liverpool:		
George A. Alden & Co.	6,800	
Total.	7,27	

MARCH EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	142,021	29,696	93,114	6,000	270,831	187,048	32,862	46,266	21,421	287,597	558,428
Frank da Costa & Co.	121,556	28,825	146,470	4,790	301,641	72,356	10,241	60,913	—	143,510	445,151
Adelbert H. Alden.	308,174	72,535	140,310	2,425	523,444	95,184	23,551	19,963	980	139,678	663,122
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	22,408	5,634	6,358	—	34,400	34,400
Kanthack & Co.	—	—	—	—	—	44,470	5,621	6,245	—	56,336	56,336
Neale & Staats.	6,610	680	657	1,147	9,094	7,706	1,539	4,693	28,685	42,623	51,717
Denis Cronan & Co.	12,261	2,279	5,626	—	20,166	2,808	699	6,543	—	10,050	30,216
R. Suarez & Co.	—	—	—	—	—	34,558	6,788	1,592	6,688	49,626	49,626
Pires, Teixeira & Co.	1,000	—	529	—	1,529	3,591	—	3,453	—	7,044	8,573
Sundry Small Shippers.	4,980	297	7,761	—	13,038	270	—	6,385	—	6,655	19,693
Direct from Iquitos.	—	—	—	—	—	60,804	7,267	109,866	18,492	196,789	196,789
Direct from Manáos.	435,487	146,709	119,656	167,233	869,085	640,334	145,789	168,200	210,223	1,164,546	2,033,631
Total for March.	1,032,089	281,021	514,123	181,595	2,008,828	1,171,537	240,351	440,477	286,489	2,138,854	4,147,682
Total for July-February.	4,643,929	1,175,370	2,923,803	527,315	9,270,417	6,501,966	1,223,969	1,675,803	1,144,498	10,546,236	19,816,653
TOTAL, CROP YEAR.	5,676,018	1,456,391	3,437,926	708,910	11,279,245	7,673,503	1,464,320	2,116,280	1,430,987	12,685,090	23,964,335

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1902.	3,347,368	320,389	3,026,979	February, 1902.	4,300,240	2,260,048	2,040,192
January.	6,273,939	172,106	6,101,833	January.	6,942,208	2,965,200	3,977,008
Two months, 1902.	9,621,307	492,495	9,128,812	Two months, 1902.	11,242,448	5,225,248	6,017,200
Two months, 1901.	8,513,064	598,780	7,914,284	Two months, 1901.	10,115,056	4,727,632	5,387,424
Two months, 1900.	9,506,960	924,672	8,581,388	Two months, 1900.	9,654,736	6,033,216	3,621,520
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1902.	2,113,540	655,160	1,458,380	February, 1902.	105,160	28,600	76,560
January.	2,581,920	1,056,000	1,525,920	January.	205,480	13,640	191,840
Two months, 1902.	4,695,460	1,711,160	2,984,300	Two months, 1902.	310,640	42,240	268,400
Two months, 1901.	4,176,260	885,940	3,290,320	Two months, 1901.	318,120	46,420	271,700
Two months, 1900.	5,408,040	2,221,340	3,186,700	Two months, 1900.	265,320	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.



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BOOK KNOWLEDGE IN RUBBER WORK.

AN American civil engineer who has decided to become a manufacturer of India-rubber goods complains that there is no complete guide to the business published, and that the rubber trade is singular in this respect. He cites other branches of industry, such as iron, glass, pottery, and so on, that have a literature which, if closely and intelligently studied, should give one an intimate knowledge of those particular industries. In this our friend is right to a degree. Provided he be a man of faculty, a natural mechanic, and an acute observer withal, he might do something in the lines cited by the application of book knowledge. It is possible, indeed, that at the end of a series of years he might grow into a great ironmaster, a wealthy potter, or a king in glass manufacture, but the same intelligence and application would place him at the head of some great rubber factory. In any or all of these cases his book knowledge would be supplemented by his constantly varying experience, and that in a short time would constitute his most valuable asset. It is perhaps easier to become an expert potter than to be an all round "rubber man." And the reason is that the rubber business as a whole is an aggregation of results that have come from thousands of complex experiments. The basis of the business is as simple as possible, but the application of the simple theory involves such a variety of changes in practice that it is a common saying among the expert that there are "more things that are not so" in rubber manufacture than in any other of the world's industries. And that is where books of necessity fail the practical man.

THE NEW "PARÁ RUBBER" FROM THE EAST.

AT a recent auction sale in London six cases of fine rubber from Ceylon, the product of cultivated trees from Pará seed, brought 3s. 4½d., or about 81.4 cents, whereas the highest price for real Pará rubber reported during the week was only 3s. 0½d. per pound. This is not the first instance of exceptionally high prices obtained in the London market for "Pará rubber" from plantations in the East. The declining profits of coffee growing have forced the planters in that part of the world to seek some more remunerative planting, and already thousands of acres are covered with rubber trees under cultivation. Not unnaturally attention has been turned chiefly to Pará rubber, on account of the universally higher price which it commands, and now that the first trees planted are becoming productive, the result of the sale of every little lot exported seems to the planters to confirm their choice. There is no computing how much planting of Pará rubber since 1900 has been due to the sale of 327 pounds, sent from Perak to London in that year, at 3s. 10d.

It is not impossible that these planters may yet be disappointed, for the reason that it remains to be seen whether what they are producing is really "Pará rubber." The tendency in nature is for all species to be influenced by a change of habitat. It appears, for example, that trees of the genus *Hevea*—the source of Pará rubber—when grown

in the East, become productive at an earlier age than in the Amazon valley; again, it is stated that, while in the Amazon forests the seed pods of the *Hevea* uniformly contain three seeds, the number is irregular on the trees in the Malay States, and there are other indications of a tendency to "sport." It is possible that, under cultivation, the tree might in time develop different characteristics even in Brazil, where thus far it has existed only under natural forest conditions. Ultimately new species of *Hevea* may exist, as a result of change of soil and climate, and of transfer from forests to plantations.

We have already expressed our opinion of samples of the cultivated rubber from the Malay States, which, while attractive in appearance, do not really resemble the fine Pará rubber now in use. It is much softer than the Brazilian product, and of much shorter "fiber." It could not be used, for example, in thread, elastic bands, or any fine pure gum goods. In solution it quickly loses its tenacity, so that it would not do for high grade cements. And it readily softens with age. Perhaps some of these defects might be removed by the introduction in the East of the methods of coagulation employed in the Amazon rubber camps, but we are disposed to believe that the Eastern planters have really produced a new grade of rubber, and that the Pará article can never be wholly duplicated by them. It is to be understood, of course, that the rubber is valuable, and will find a ready market at a price which is likely to yield a profit, but such samples as have reached us, valued from the manufacturer's standpoint, would rank at least 25 per cent. below fine Pará.

The good prices realized in London, doubtless, have been due to the cleanly appearance of the new rubber. And they have been based on the judgment of brokers, rather than results of practical tests in the factory. It would seem that the better course for the planters' associations would be, not to try to find how much money can be obtained in the open markets for their sample lots—which then become lost to sight—but to send them direct to a well equipped factory, to be made up in various forms of goods. The manufacturers' test is the one by which the value of this rubber will be judged finally, regardless of what may be the judgment of brokers to-day. We do not mean to dampen the enthusiasm of the planters, but there is such a thing as basing their plans upon estimates of profits that are impossible.

THE UNITED STATES RUBBER CO.

THE latest report of this company is of interest as revealing the condition of one of the earliest large industrial consolidations formed in the United States, after an existence of ten years. It is especially interesting because for the first time it appears not to have been prepared with a view to concealing information.

In view of the frequent suggestion that industrial corporations should be required by law to give more publicity to the details of their operation and financial condition, it may be said that while the treasurer's report of the United States Rubber Co. this year is much fuller than usual, it is

difficult to see how the public, or even a stockholder not intimately acquainted with the rubber industry, can gain from it much information that would be of value to the investor in the securities of the company. Then there is a difficulty in the way of compelling the publication of such detailed statements of a manufacturing corporation as is required by law, for instance from banks and insurance companies. The object of state regulation of such institutions as these is to reveal the degree of their solvency. If an insurance company is required to make a statement of its holdings of securities, any person conversant with such matters can judge of the value of the securities named. But the general public could hardly form a judgment of the value of the "investments" of the United States Rubber Co., even if a detailed list were published, since these relate to the capital stock of subsidiary manufacturing companies, whose actual condition is liable to change from year to year. And it would be difficult to draw a line between those companies which should and those which should not be required to reveal the details of their business operation. The United States Rubber Co. is incorporated under the same laws under which some of its subsidiary companies were incorporated, and the mere fact that it is larger than any one of these is not in itself a sufficient reason for compelling its books to be opened to the public.

It might be suggested that any company offering its shares to the public should be required to publish some certain form of statement for the benefit of purchasers of the shares. But this would be of little account if, after a complete statement was furnished, only an expert in that branch of industry could understand it. Under the laws of Massachusetts every industrial corporation in that state is required to file annually a statement of its condition with the commissioner of corporations. But these statements, however fully they may comply with the requirements of the law, would hardly be accepted by any prudent business man as a guide to making investments in the shares of these companies. The fact is, that the public is not obliged to purchase the shares of any industrial corporation, and its best guide, after all, is not any particular published statement, but the character of the individuals entrusted with the management of a given company, together with some intelligent understanding of the nature and conditions of the business in which the corporation is engaged.

The United States Rubber Co. has far from realized all the advantages hoped for through bringing the greater part of the rubber shoe industry under a single control. The enterprise was to a certain extent experimental, seeing that it was practically first in the field of great industrial organizations of this type, and undoubtedly difficulties have been encountered which were not, and probably could not have been, foreseen. It is possible, too, that mistakes in management have been made which the company will be able in future to avoid. From the standpoint of the shareholders, it is an encouraging condition that the managers appear to have adopted a policy of caution, of reducing their book valuation of assets, of selling products at a price which, as far as possible, will discourage compe-

tition, and leaving out of sight the question of dividends until control has been regained of as much as possible of trade which has been lost during the last two years to their competitors. It is not possible that competition will ever be eliminated, and the only hope for the big company is in being able to reduce the cost of production, including administration, to such an extent as to give it an advantage over the independent companies.

So far as can be judged from the late report, the most important promise of economy lies in the direction of superior facilities for buying raw materials. An important fact revealed relates to the amount of crude rubber consumed by the company last year, and the preparations made for the direct importation of this large quantity under the company's own letters of credit. This method of importation has been followed for many years by an important subsidiary company, and it is assumed that the existing arrangements are to be extended to meet all the requirements in rubber in the United States company.

SOME RUBBER TRADING EXPERIMENTS.

THE rubber trade is slowly undergoing a change in the direction of lessening the number of hands through which the product passes between the forest and the factory. Naturally it is the expectation of every handler of the crude rubber that a profit shall be made in the transaction. If, at some of the stages, the business is done in a haphazard manner, the risk is greater, and larger profits must be figured on, than under better systematized conditions. Doubtless some such considerations led to the organization of the Comptoir Colonial Français, whose bankruptcy is mentioned on another page. We have referred in the past to the advantages which this company appeared to have—assuming its capital to be real—in having control of desirable rubber fields on the Amazon, of boats, trading stations, and organized bands of workers, enabling the company to send rubber direct from its own estates to the consuming markets. During the first full working season no less than 1,300,000 pounds of rubber were shipped in the company's name from Pará, and that before the decline in prices—which seemed to be a good beginning. We do not know the details of its management, nor how far its capital of 9,000,000 francs has been impaired by concurrent operations in French Africa. But the mere fact of the failure of the company is calculated to cause rubber exploiting enterprises to be regarded with less favor.

A great deal of money has been made in crude rubber in the past, in spite of loose business methods in some of the countries of production, and money is bound to be made in future, since rubber is an actual necessity, the consumption of which is steadily on the increase. It was inevitable that the first attempts to handle the product direct and on a large scale should involve costly mistakes and some failures. But the same thing has been true at first of all large enterprises involving the employment of capital in remote regions. There is no inherent reason why rubber trading should always be unprofitable any

more than gold mining at a distance from where the capital is raised.

There is reason to suspect that one element of weakness in the group of French companies now embarrassed—with an aggregate of more than 18,000,000 francs capital—has been that the financiers back of them have been more concerned about stock transactions than about the details of rubber gathering. There is no telling how much of their capital consisted merely of "shares." But one thing we do know was that the principal intelligence that has reached the world concerning them has been through the bourses of France and Belgium, and it does not require very much argument to prove that the place to make money in crude rubber is not on the stock exchange.

As for an American company being formed to exploit concessions on the French Congo, it may be referred to as a matter of interest, as the first instance where it has been proposed to employ American capital in that direction. But with the United States as so large a consumer of African rubbers, it is only natural that the experiment should be tried of gaining the necessary supplies from that quarter more directly than has been the case hitherto. Already more than one important American company has made a beginning in the Bolivian rubber field, and much American capital is ready for investment in the Acre rubber district so soon as certain preliminaries have been arranged. Africa is even more accessible than Bolivia, and may prove as good a field for well directed enterprise.

THIRTEEN IS NO LONGER UNLUCKY, as proved by the success of the New England Rubber Club dinner on May 13.

NEW YORK'S FIRE HOSE SUPPLIES.

THE Merchants' Association of New York, composed of business men of prominence, in connection with its work of attempting to secure greater economy in the city administration, is distributing a pamphlet containing a comparison of the cost of government in New York with that of thirteen other leading cities in the United States. In regard to fire hose, it is shown that, at the average prices paid in the thirteen other cities, 124,167 feet could be bought for the amount of money paid for 84,231 feet in New York.

It may be remembered that last year an indictment was obtained against the then Fire commissioner of New York city—whose term of office has since expired—charging him with conspiracy to rob the city by means of the payment of a higher price for fire hose than was usually charged by the rubber manufacturers. It was alleged by the public prosecutor that fire hose could be sold to the city only through one "agent," who was supposed to receive a liberal compensation, which he divided with the Fire commissioner. The case was never brought to trial, but the published references to it suggested that the rubber hose manufacturers had indulged in bribery in order to be able to do business with the city. The manager of a leading manufacturing concern, in a statement to THE INDIA RUBBER WORLD, says:

"This impression is wrong. We have paid no bribes, and there has been no occasion to pay any. We have sold our hose at regular prices to the persons offering to buy the same, and if they have charged the city higher prices, that has been a matter with which we have had no connection."

RUBBER SHOES IN THE CENSUS.

CENSUS Bulletin No. 171 is devoted to the rubber boot and shoe industry in the United States, during the census year ending May 31, 1900. It appears that the number of establishments reported was 22, against 11 in 1890, and 9 in 1880. The capital employed was \$33,667,533, against \$17,790,970 in 1900. The average number of wage earners was 14,391 in 1900; 9,134 in 1890; and 4662 in 1880. The total wages paid were \$6,426,579 in 1900, \$3,813,073 in 1890, and \$1,469,038 in 1880. The cost of materials used was \$22,682,543 in 1900, \$11,650,787 in 1890, and \$6,023,053 in 1880. The value of products was \$41,089,819 in 1900, \$18,632,060 in 1890, and \$9,705,724 in 1880. It is noted that, in stating the capital employed, account has been taken of real property and live capital utilized, and not the capital stock of the various corporations.

NUMBER OF PAIRS PRODUCED.

CLASSIFICATION.	Men's.	Women's.	Children's.	TOTAL.
Boots.....	3,513,421	303,622	623,009	4,440,052
Shoes.....	10,651,684	16,113,746	4,135,463	30,900,893
Tennis.....	1,424,448	346,744	558,089	2,329,281
Arctics.....	4,672,862	2,003,286	971,613	7,647,761
Lumbermen's.....	4,229,899	9,259	145,418	4,384,576
Felt boots.....	147,196	.....	412	147,608
Various.....	47,133	70,698	11,227	129,058
Total.....	24,686,643	18,847,355	6,445,231	49,979,229

Value.....	\$27,160,177	\$8,165,695	\$3,435,448	\$38,761,320
Value of other products--custom work and repairing.				2,328,499

Total value of products \$41,089,819

PRODUCTION BY STATES.

Massachusetts (6 establishments).....	pairs	19,759,961
Connecticut (5 establishments).....		15,375,035
Rhode Island (6 establishments).....		10,090,357
*Other states (5 establishments).....		4,762,876

Total 49,979,229

[* Missouri, 1; New Jersey, 2; Pennsylvania, 2.]

An attempt has been made to report the amount of crude rubber used in the manufacture of rubber boots and shoes in 1900, as follows:

IMPORTED FROM--	Pounds.	Value
Brazil.....	10,891,367	\$9,638,992
Africa.....	4,917,281	3,624,442
Central America.....	1,858,473	1,304,754
Asia.....	17,536	14,580

Total..... 17,684,657 \$14,582,768

Materials purchased in a partially manufactured form cost \$7,641,178, or 33.7 per cent. of the total. This item includes reclaimed rubber, felt goods, chemicals, sheeting, and other necessary materials. "It is impossible to estimate the exact quantity or value of reclaimed rubber used in 1900; many establishments included this item with the cost of all other materials; yet the fact that five establishments reported having used 2,971,806 pounds of reclaimed rubber, valued at \$337,371, shows it to be an important factor in this industry."

As wool and felt boots entered in considerable quantities into some of the finished products of the rubber boot and shoe industry, a summary is given of the statistics of this industry as carried on in 1900 by establishments separate and distinct from those engaged in the manufacture of rubber boots and shoes. There were 5 such establishments, employing \$2,361,871 capital and an average of 1400 wage earners. The total value of products was \$2,742,745.

At Vienna, Ohio, an enterprising woman is said to be earning a good support by the manufacture of paper flowers, which she sells in exchange for rubber scrap.

THE RUBBER EXPLOITING COMPANIES.

THE work of organization of the Congo and Sangha Development Co., mentioned in the last INDIA RUBBER WORLD as having been incorporated in New Jersey to acquire the concession of the Société de la Sangha Équatoriale, in the French Congo, has been in progress during the past month, but as yet no further details have become available for publication. Meanwhile, the promoters of the company have been in receipt of samples of rubber produced by the *concessionaire* company in Africa, which are regarded as the most attractive rubber from that continent ever seen in New York.

COMPTOIR COLONIAL FRANCAIS BANKRUPT.

THE Comptoir Colonial Français was adjudged bankrupt by the tribunal de commerce de la Seine, Paris, in a decree dated April 7, 1902. This is a joint stock company constituted in Paris in May, 1899, with 9,000,000 francs capital, for objects of colonization and commerce, and particularly the exploitation of Caoutchouc. With headquarters in Paris, at rue des Petites Ecuries, 54, the company conducted trading operations at Pará and Manáos, Brazil; stations on both sides of the rio Javay, in Brazil and Peru; at Conakry (French Guinea), and St. Louis (Senegal), West Africa. The company was interested also in the following enterprises, based upon concessions in the French Congo:

	Capital.
Compagnie Française du Congo	francs 3,000,000
Société de l'Afrique Équatoriale.....	2,000,000
Compagnie de l'N'Kémé et de l'N'Kéni.....	1,000,000
Compagnie Française de l'Oubangui-Ombella.....	1,000,000
Compagnie Agricole, Commerciale et Industrielle de la Léfini.....	1,200,000
Société Agricole et Commerciale du Sette-Cama.....	1,650,000

The companies named here were all formed in 1899, and, together with the Comptoir Colonial Français, have been classed together, as is customary with French and Belgian enterprises, as controlled by one "group" of financiers. Their close connection is shown by several of the directors serving on the boards of one or more companies, while the name of François Nicol appears in the directorate of all seven. Their shares were listed on Brussels bourse, and some of them for awhile were quoted above par, but for some time past no trading has been reported. In the last INDIA RUBBER WORLD the Oubangui Ombella company was reported to have definitely given up its concession. The Comptoir Colonial Français was already in litigation, and March 12 the proceedings were begun which ended in the company being declared bankrupt.

The Comptoir Colonial Française reported the collection, during their first season's work on the Javary (1899 1900), of 652,907 pounds of rubber, worth in Europe 2,750,000 francs. They reported having control of 1,235,000 acres of lands. The exports from Pará in their name during the calendar year 1900 amounted to 1,373,840 pounds.

NEW USE FOR RUBBER MATTING.

A NEW rule that undoubtedly will result in the use of considerable rubber matting has been recently adopted by three large railway systems in the West--the Northwestern, the Union Pacific, and the Southern Pacific. These roads have informed their baggage men that the rough handling of trunks, boxes, and bags must cease. It further provides that the trucks must be provided with a thick pad of felt or other material to lessen the jar when baggage is moved from the car to the truck. Of course a felt pad would soon wear out, and would be a dirty, unsanitary, makeshift at best. Rubber matting is really the only material available, and the day is not far distant when all baggage trucks will be covered with it.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

I DON'T know what the case is in the United States, but on this side it is pretty generally the rule for firms to refuse to allow their managers as subordinate employes to give evidence in legal disputes between rival firms, or where another rubber manufacturer is being proceeded against.

Although this decision reduces the field from whence real expert evidence can be obtained to one of very small dimensions, yet there is undoubtedly much to be said in its favor. There is no reason, of course, to suggest that a breach of the ninth commandment would be imminent were various manufactures put in the witness box to testify to the demerits of a competitors' goods, yet the undoubted existence of sharp trade rivalry is enough to cause qualms in the mind of him against whom the evidence is being given. Moreover, the existence of trade rivalry does not presuppose the atrophy of honorable dealing, and a good many manufacturers would just as soon that no suspicion of "hitting below the belt" should exist. They may chuckle inwardly at seeing a rival worsted in a legal encounter, but they much prefer that the *fulmen brutum* was death by some other hand than their own. I am minded to enlarge on this question because I remember once hearing a counsel in a rubber dispute state that the North British Rubber Co. had given an opinion as to the manufacture of some goods in dispute, but that they made it their invariable rule not to allow any of their staff to give evidence in court. How far the opinion of the North British company in the case referred to had weight with the judge I am unable to say, but, under the circumstances, seeing that no cross examination could take place, it hardly seems desirable that such evidence should be offered in court. If evidence in person is not allowed by the company, then it would seem only reasonable that opinion calculated to damage a trade rival should not be paraded by counsel. At least this is how it occurs to me: it is of course quite probable that the use of the North British company's opinion in the above case was quite unauthorized, and I have no wish to be understood as going beyond the mere recording of a fact to indulge in the luxury of a homily which may turn out to be totally unjustified.

THE new building, both architecturally and in its ample dimensions, is certainly a great improvement on that which for so many years attracted the searcher in patent lore and the reader of technical journals. It cannot be said that the library shelf bearing the label "India-rubber and Gutta-percha" is particularly well filled, but that is not the fault of the librarians who have put thereon what technical literature on the subject is available, a prominent volume of course being that written by the Editor of this Journal. ["Crude Rubber and Compounding Ingredients."] The library as far as I have had experience of it cannot have the complaint of vitiated atmosphere brought against it. Probably recent advances in hygiene have had their influence to obviate defects in ventilation which are so painfully apparent in the British Museum library, for instance. But whether this is so, or whether the result may be attributed to the comparatively small number of readers to be found present at any one time, is a matter of no great import. The effect is of more interest to the brain worker that the cause on which it depends and it is a pleasure to be able to testify to the admirable nature of the arrangements. Probably the librarian

and his assistants rarely if ever look beneath the covers of the various technical journals under their charge, but as THE INDIA RUBBER WORLD appears on the tables, there is a remote chance that these few remarks may catch the eye of some one in authority.

WITH regard to the interesting notice in the March INDIA RUBBER WORLD of the sunning of vulcanized rubber goods, I speak under correction, but I doubt if the process is in use at all in Great Britain. I was quite under the impression myself that the use of the solar rays in this way had never been actually put in practice, although suggested very many years ago. With regard to its general application, the absence of strong sunlight for a great part of the year in many British rubber manufacturing centers would seem to be a serious drawback. We seem to have an analogy in the use of the windmill; it is awkward to be dependent on a force which is not under control, and which cannot be called into being at the will of the manufacturer. As suggested in the article, the use of the actinic rays in this way certainly raises strong doubts as to the correctness of the general idea that sunlight is destructive to vulcanized rubber goods, but I suppose that it is largely a matter of time, and it is in the brevity of the exposure in the sun curing process that safety and success lie. Increase the time of exposure to something approaching that which goods are expected to last when in use and there would assuredly be a different tale to tell.

THE triple angled revolving spreading machine gage patented by Mr. William Coulter some few years ago has, I understand, quite borne out the expectations entertained by those rubber manufacturers, both in Great Britain and on the Continent, who have given it a trial.

The fact that the North British Rubber Co. have placed twelve in their mills is a safe indication of merit, and one on which the patentee not unnaturally lays stress, when endeavoring to combat opposition or to convince those who view such novelties with complacent indifference. Space does not permit here of entry into minute detail, but a word or two seems desirable. The improvement consists in the application of a revolving gage with different angles for the various classes of work to be spread. Material is in this way saved as a sharp angle gage will use less dough especially in first coating than a deep one, afterwards in proofing up with a more blunt gage a more thoroughly waterproof sheet is claimed to be made than if the sharp angle gage had been applied throughout the piece. It used to be rather a common excuse among workmen that the gage of their machines was too heavy or too light for the particular work given out, but it will be seen that with the revolving gage such complaints are inadmissible. Messrs. Joseph Robinson & Co., the rubber machinists of Springfield lane, Salford, Manchester, are the makers, and will give any desired information.

AS I write, at the opening of the lawn tennis season, a rather perturbed state of mind is prevalent among club secretaries with regard to the balls. For years "Ayres regulation" have been the best quality, or, at any rate, have had the highest reputation, and have been universally adopted by the leading clubs and in tournaments. This season, however, Slazenger's balls are to be used in the tournaments, a change that has excited a consider-

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BALLS.

able degree of comment among the rank and file of players. It may be said that, although various firms sell tennis balls under their own name or mark, there are really only two or three actual manufacturers of the rubber ball, which may be purchased by the middlemen either complete with melton covering, or uncovered. At the present time the firms who make the balls largely are the Silvertown, Macintosh, and Irwell companies. Exactly to what extent Continental competition has affected the above firms I am unable to say, but I do not think it is a serious matter.

IN A recent paper by Mr. G. W. Newall, in the *Marine Engineer*, on the uses of India-rubber on board ship, it was stated in the prolegomena that a sharp distinction existed (presumably in the trade) between the terms Caoutchouc and India-rubber, and that while the former referred specifically to the raw rubber as imported, the use of the latter term was restricted to the vulcanized product. Now I do not know to what length Mr. Newall's acquaintance with rubber and its technology has extended, but I must say that in my own experience, which has long passed the first decade of its existence, I have not come across any one who recognized this distinction, or at any rate who expressed himself in so confident a manner, and I must say that when reading the sentence I rubbed my eyes to make sure that I was not under the spell of some illusion. The matter is, perhaps, not one of the first importance, but still it hardly seems desirable that it should go altogether unchallenged, as it is calculated to cause a certain amount of confusion in the minds of buyers of rubber goods. In saying this, with regard to existing facts, I don't wish to be understood as saying that any such distinctive appellation is undesirable, or that there are no grounds for its advocacy because, no doubt, in common with many others, I feel that the term India-rubber as used in regard to manufactured goods is decidedly lacking in definiteness. The term India-rubber may be appropriate in every way when applied to such goods as cut sheet or elastic thread, but loses all its significance when referred to mixtures of minerals made to coalesce by the addition of a modicum of rubber. But to pass on to another point, I don't think that the somewhat uncouth word Caoutchouc used by Mr. Newall has much vogue in British rubber manufacturing circles, whatever may be the case in France and Holland. The prevailing uncertainty as to its correct pronunciation has, perhaps, acted as a bar to its increased oral use, though personally I much prefer the word Caoutchouc, with all its potentialities for mispronunciation, to that of "gum," which, from a chemical point of view at all events, is entirely misleading. Writing in an American journal I recognize that I am here on somewhat holy ground and shall not pursue the subject beyond entering the disclaimer.

AS regards the recent London automobile show, a tire that has been a good deal talked about is the Sewell's suspensory tire, which, shortly speaking, seems to be the old ball tire revived; that is, a rubber rim to which are attached numerous contiguous pneumatic rubber balls. The idea, of course, is to minimize trouble caused by puncture. With regard, however, to something that has undoubtedly come to stay, to judge by what we hear from automobilists mention, should be made of the Goodyear pneumatic tire, from America, which is being so largely fitted this season by the Daimler Motor Co. These tires have recently been fitted to the Daimler car used by the King, instead of the solid ones which he has hitherto used. With respect to another motor tire, which calls for reference here, things have hardly advanced to a stage at which I can speak with confi-

dence. This is the Martin Tyre Syndicate, of which Mr. Tomlinson, of Preston, is the chairman and moving spirit. It is a pneumatic but without an inner tube. I should say that the runs made with this tire from one end of Great Britain to the other have shown it to be possessed of sterling properties. With regard to price, it certainly has an advantage over others that are being much talked about, and this is a consideration that cannot be ignored by those wishful of gaining the motorists' favor. From all accounts the motor tire business is on the eve of a substantial increase and it is not surprising that increased activity is being shown by inventors in order to share the prospective plunder, to use the term in a sense not meant to be invidious.

THIS old-established rubber substitute manufacturing firm has recently been reconstructed and is now quite independent of any connection with Messrs. Broadhurst & Co., Limited, India-rubber manufacturers.

The two directors who now have sole control of the business are Mr. O. M. Wihl, of Messrs. Edward Wihl & Co., 17, Nicholas street, Manchester, and F. Murgatroyd, of Messrs. Trevar, Murgatroyd & Co., accountants, Manchester. Mr. Ireland, of Widner, who had been announced as a director, has retired from any active participation in the management. The practical work is still carried on under the control of Mr. G. H. Scott at Hayne Bar Mill, New Mills, near Stockport, and under his able supervision there is no reason why the firm should not experience an era of prosperity, though, of course, with the greatly increased competition in substitute and recovered rubber, the profits of former days are hardly likely to be realized.

THE recent resignation of Mr. F. A. Byrne from the Dunlop rubber works at Birmingham has caused some little surprise.

THE BYRNE family are now quite unrepresented in the management of the company at either of its rubber mills. Mr. E. J. Byrne I presume still holds the post of advisory expert to the company to which he was appointed a year or so ago at a high remuneration.==At the recently held annual meeting of Messrs. Charles Mackintosh & Co., Limited, a dividend at the rate of 11 per cent. for the past year was declared. Mr. F. H. Smith, the chairman of the directors, presided.==A general meeting and dinner of the India Rubber Manufacturers' Association was held on May 8, at the Queens Hotel, Manchester.==An important cable works combine has just been announced, though rumors concerning it have been current for some time. This is the union of the Telegraph Manufacturing Co., Limited, of Helsby, near Warrington, with The British Insulated Wire Co., Limited, of Prescott Lancashire. Considering the independent position hitherto maintained by the Helsby company, the proprietors of which, Messrs. Taylor, have built it up from small beginnings, the new arrangement has come somewhat as a surprise. Following, however, as it does on the Callender-Henley combine, it rather points to the fact that, despite the good dividends paid by cable firms during the last few years, the business is not one of which the future can be viewed with perfect confidence. This opinion is borne out by what Mr. James Taylor said at the extraordinary general meeting of the Helsby company, held at Liverpool on May 9 to ratify the sale of the company to the British Insulated Wire Co. The name of the joint concern has not yet been decided upon, nor have the terms on which the Helsby sold their concern been stated, though there is no doubt that the recent decline in the value of the Insulated Wire Co.'s shares has been to the advantage of the shareholders in the Helsby company in the bargain which has just been concluded.

IRREGULARITIES
IN TRADE
NOMENCLATURE.

MOTOR TIRE
NOTES.

THE RUBBER INDUSTRY IN THE PERUVIAN AMAZONIAN BASIN.

By H. Guillaume, F. R. G. S. (Southampton.)*

THE rubber industry of the upper Amazonian basin is centered at Iquitos, a Peruvian port which has risen from the status of a fishing village to a wealthy town of 7000 inhabitants, consisting of natives of Peru, half castes, and Jews who have migrated from Gibraltar, Tangiers, and Morocco. I am indebted to my friend Mr. Melville G. Clayton, an English engineer who in 1899 took out a Chiswick steam launch for service on the upper affluents of the Amazon, for detailed information from his three years experience in that region.

In 1897, the United States cruising corvette *Wilmington* arrived at Iquitos, her officers receiving a most hospitable welcome from the merchants, who carry on an extensive and expanding commerce with the States; the opportune visit naturally strengthening the commercial relations between the two countries by demonstrating facilities. Rubber has been the stimulating objective, bringing commerce, civilization, and developments, to what was not long ago a veritable *terra incognita* and hunting ground of numerous tribes of savages and cannibals; now gradually becoming, by means of barter and trading, important factors in aiding the white man to collect the vegetable gold of the forest—hitherto quite inaccessible—now one of the most important items of commerce.

It is the construction of railways and fluvial steam navigation, which are destined to give life and movement to the immense wealth lying dormant on the flanks of the Cordilleras and which through their agency will spring up in a magical manner. The new railway just authorized from Oroya to the rich copper deposits of Cerro de Pasco will doubtless prove of enormous service, being near to the navigable waters of the Perené, Pachitea, Apurimac, and Rio Camba; thus offering easy access to the Pacific, via Lima and Callao to Liverpool. Many obstacles have checked development in the upper Amazonian basin, which is still in a state of semicivilization, but by the expanding influence of steam and electricity, combined with the perseverance of bold energetic pioneers, impediments must gradually be removed, and communication with the Pacific and Atlantic facilitated. The Washington government, in order to obtain trustworthy data for its hydrographic department, despatched the aforementioned steam vessel of 1392 tons displacement, with a draught of 10 feet and length of 250 feet, with 1600 I H P., to Iquitos; a port 2000 miles from the ocean. The visit enabled much information to be gathered, the steamer returning with many specimens in natural history and botany, and the voyage proving of great value to the general public.

The *Wilmington* having many feet to spare in her anchorage at Iquitos, all doubts as to the navigability of the Upper Amazon were removed, and at the junction of the Javary, 315 miles east of Iquitos, there were found 18 fathoms, while craft of 800 tons can steam to Borgas, 600 miles west of Iquitos. The

impediments to communication imposed by the lofty snowy Andes, the rapid torrents of the slopes, and the hostile native tribes established on the margins of the rivers, will be gradually overcome by civilization, and one of the notable workers to achieve direct communication from the Pacific to the Amazon is the indefatigable Dr. J. Capelo, an eminent Peruvian engineer, who, despite the difficult task, expensive work, and objections from many compatriots, has succeeded in constructing a serviceable road from the Oroya terminus of the Transandine railway, to the navigable river Pichis; and from this point traffic is conducted with Iquitos, by means of shallow draft steamers fitted with the Thornycroft chambered screw, working in only 2 feet of water.

This road has rendered the valley of the Ucayali accessible to the rest of Peru and established easy intercourse with Iquitos. The postal time from Lima to Iquitos is now reduced to 12 days, viz.: Lima to Pichis 7 days, and Pichis to Iquitos 5 days, but it takes 13 days to ascend the rivers Ucayali, Pachitea, and Pichis, making 20 days to return to the capital. The river Ucayali and its tributaries form the chief center of the rubber industry, along the banks of that great fluvial highway, and many trading stations and colonies have been formed on the lower part of the Ucayali, containing 1500 inhabitants, who form the various expeditions sent out to collect rubber in the forests.

The Pachitea river, a tributary of the Ucayali, is 825 miles from Iquitos, the Pachitea itself being 191 miles and the Pichis 79 miles, making a united total of 1095 miles. The time taken to ascend is 13 days, while the descent is practicable in 5 days. The chief port on the Pachitea is called Port Victoria, in honor of the late British queen. It is the residence of Senhor Pedro Oliveiera, a Brazilian who conducts extensive trading in rubber, his chief properties being on the Palcazú. The port is well situated at the confluence of the Pichis and Palcazú, and is destined to become a place of considerable importance. Telegraph communication is established from this point to Lima. Owing to the extreme sinuosity of the Pichis and its shallow depth—only admitting steamers of 2 feet draught—it is recommended by Mr. Clayton that the road should be extended to Port Victoria, to which point steamers can ascend, drawing 3 feet of water always; but if the road were carried direct to the Ucayali, there would be 9 feet of water there at all times. There is still an immense area of virgin forest where rubber abounds, as yet untouched, such as the upper affluents of the Ucayali, the Tambo, Mantaro, Ene, Pangoa, and Apurimac, which have hitherto been unfrequented by the traders on account of the hostility of the Indians. The headwaters of the Madre de Dios and the Purús are reached by the affluents of the Urubamba and the Mishagua, where only recently trade has been carried, and whence increasing supplies of rubber are coming forward. M. Delfino Fiscarrald, of Iquitos, carries on the bulk of the trade in that region. The *pampa* of Sacramento, which is 100 leagues long by 40 wide, also contains unexplored forests.

The Indians of the Ucayali are estimated at 40,000; the Cámpos being the chief tribe, growing semicivilized, and helping to collect rubber. They are copper colored, and are thought to be descended from the Incas. They wear a loose gown called *cushma*, woven from wild cotton. Other tribes such as the Piros, the Cónibos, and the Shipibos, are expert canoeists,

*The author of this paper was for many years the Peruvian consul general at Southampton, England, where he is still engaged in mercantile interests. In THE INDIA RUBBER WORLD of December 15, 1893, he wrote at length of "The India-Rubber Industry in Amazonian Peru," giving much information of value regarding the rubber resources of that region—the development of which has been delayed by the remoteness of the country from commercial centers and the limited transportation facilities. It appears now, however, that conditions are more favorable for Peruvian enterprises, besides which a higher price level for rubber has been attained. An excellent map showing the location of the rivers referred to in this paper appeared in THE INDIA RUBBER WORLD of December 15, 1893, and another map covering the same territory was given in our issue of October 15, 1894. —THE EDITOR.

hunters, and fishers. The indians hold feasts, when they paint their faces with the red dye called *achote* or *anatto* (*Rivina orellana*). They drink freely the fermented liquor *chicha* made from the root of the yuca or manioc, and gash their heads to display courage. It is part of their worship to drink, thinking that the happier they are the better the Creator will be pleased. All trading is done by barter, the whites supplying them with many useful articles, from a mirror to a Liège gun, which soon becomes useless, being of a cheap character but showy appearance. When bargains are made for parcels of rubber to be brought for a certain article, they keep the contract faithfully.

Mr. Clayton says the general word used among the Shipibos, Cónibos and Cámpas for rubber, is *sandouga*. When asking them for that article, you name the word, motioning that they should bring it from the forest, and at the same time showing them a gun, shirt, or machete. If you wish them to collect it in your absence, it is customary to give a present of a machete or axe, for instance, and by signs show them that you are going up or down river, as the case may be, and that you will return again in a certain number of days. This latter is done by describing an arc with the arm in a vertical position to indicate noon, and with each sweep of the arm close one finger of the other hand, which should be held at the same height, and at the side of the face. Among tribes whose language you may be acquainted with to a slight extent, it is the rule to use the word "to-morrow" which in Cárpa for instance is *yaucha*. Suppose I wish to tell a Cárpa that I am going up river, intend to return in five days, and that I wanted some rubber; I should first show him a present, then say "sandouga" until he seemed to understand, then make motions as if paddling a canoe, and say "yaucha" five times closing a finger with each word. Then point to the spot where you are standing and say "sandouga," then indicate with the fingers how many machetes. For instance, you would give so many for a pile of rubber, such as you think they can get together in the time.

There are about fifty steamers employed by the merchants of Iquitos in collecting rubber from the various tributaries. The names of the chief rubber merchants at Iquitos are:

L. T. Morey. (French house.)
A. Morey. (French.)
Marius & Levy. (French.)
Pinto Irmaos. (Brazilian.)
Wesche & Co. (German.)
Kahn & Pollock. (French)
Hernandez Maque & Co. (Peruvian.)

Although the climate of Iquitos is humid, it is healthy, the average temperature being 87° F. There are few deaths from fevers and other diseases.

The principal tree yielding the rubber is the common "Caucho" (*Castilloa elastica*), which is found growing profusely in all parts. It is invariably cut down, as it yields milk from the whole of the trunk, but the *Hevea* is only tapped, as it only yields juice from between the bark and stem. Although entire forests of Caucho has been destroyed, the ground is quickly covered again with the trees, from the roots or seeds left in the soil; and in six years are fit to be again felled, so rapid is the growth. The juice of the tree is caught in trenches made in the ground, the coagulation being effected in two days. The best quality of gum is that produced by the Seringas,* which are found growing in isolated spots. Paths, called *estradas*, are made to the groves, an *estrada* consisting of 150 trees, each of which produces annually 10 shillings worth of rubber.

* The trees known in the Amazon region by this name are those designated by botanists as the genus *Hevea*. --THE EDITOR.

All communication is kept up by launches and canoes. The most effective kind of launch is of the Thornycroft type, driven by propellers that work in tunnels, as they exert more power than stern wheelers, and are useful in water of only 2 feet. Protection is given to the crew against attacks by indians. The Cámpas and Cónibos often enter the Pampa de Sacramento, attack the savage Cashibos, and make captives of them; carrying them off to sell to the rubber gatherers, who make them work. In time they become accustomed to civilized people, who give them food and clothing. Thus they leave barbarism for civilization, and although it may appear to be a cruel treatment, it seems to be the only way to render them docile, and of utility to the settlers. Game abounds, peccaries and deer giving good sport. There are plenty of partridges and ducks, and the monkey is reckoned a favorite dish on the river.

Mr. Clayton says that European immigration can certainly be established in these regions, but the colonists must be supplied with provisions by the government, and brought to them by the launches regularly during the first year. There might also be some arrangement made with the colonists for them to plant a certain number of rubber trees, to repay the government expense, and the government could recoup itself by a rubber monopoly. The prefect, Colonel Portillo, is anxious to welcome English and American citizens to help to develop these great regions, so rich in every product. Señor Portillo also advocates the construction of a road from the English colony on the Perené, to the Tambo affluent of the Amazon; to give an outlet for cattle and produce to the Amazonian ports and settlements, along with produce to Europe and the outside commercial world.

The English colony on the Perené was formed by the European company known as the Peruvian Corporation, which acquired from the Lima government 1,250,000 acres of land, extending for a distance of 40 miles along the banks of that river for a distance of 12½ miles on both sides of the stream. The land is rich in all products, as well as in gold and other minerals. Petroleum has been discovered near the area, which also contains carboniferous seams. The climate has proved to be one of the finest and most healthful in the world, on the testimony of Mr. A. L. Bicknell, F.R.A.S., and other travelers who have visited the country, and who share the opinion that the true route for exports from the colony should be through the river. Only a road of 40 miles is needed to reach a navigable port on the Tambo; whence a service of steamers to Iquitos will place the colony in direct communication with England and the United States.

NEW RUBBER COMPANIES IN PERU.

RICHARD R. NEILL, United States secretary of legation at Lima, Peru, reports to his government the formation of a rubber company in that city, with a capital of £26,000, to operate in the province of Sandia, department of Puno, Peru. This is near the Bolivian boundary, and convenient to Lake Titicaca, whence rubber may be shipped by rail to Mollendo, on the Pacific. A reference to this district appeared in THE INDIA RUBBER WORLD April 1, 1899 (page 178). Mr. Neill reports that another company will take possession of 50,000 hectares (=177 square miles) of rubber lands near Marcapata, in the department of Cuzco and east of the city of that name. It is also reported that an individual enterprise in the neighborhood of Marcapata gives employment to 500 rubber gatherers. "Denouncing" lands in the public domain costs little, though the measurements of concessions is expensive—say £1000 for 30,000 hectares (=74,130 acres). These enterprises, by the way, are located in a different field from that described in the foregoing paper by Mr. Guillaume.

CAUCHO GATHERING ON THE UPPER AMAZON.

By Lyonel Garnier (Manáos).

THE Caucho* tree is always, or nearly always, surrounded by saplings, which of course are not cut with the parent tree. Therefore the Peruvians calculate that in thirty years it should be possible to obtain a fresh crop from the ground already worked over. As Caucho cutting was only begun here in 1885 or in 1886, and then only on a comparatively small scale, it is impossible to say how far this theory has been borne out in practice. I may say, however, that Dr. Juan d' Arguila has sent out men to go over his estates on the Ucayali, where Caucho was exhausted in 1888, and that he hopes to cut the next year. I have myself seen on the Marañon [upper Amazon] young Caucho trees, six or seven years old, growing up around the felled trunk of the parent tree, so that I think it very probable that ere long the Colombian and Peruvian forests will regain their old status.

As to the yield of the Caucho tree: In my two years' experience in Peru, Ecuador, and Brazil, cutting Caucho with my own hands, I have frequently encountered trees giving 18 to 26 kilograms [= 39.6 to 57.2 pounds] of slab Caucho on the spot, but of course you must remember that Caucho loses 70 to 80 per cent. of its weight in the voyage to Pará or Manáos.

From what I have read in the THE INDIA RUBBER WORLD, it appears that in Mexico the *Castilloa elastica* trees are tapped, as if they were *Heveas*. I have asked several Peruvians as to this method of extracting *latex*, and they all consider it wasteful—

1. Because by this method only from 2 to 7 kilograms of slab Caucho can be obtained on the spot.
2. Because after five or six tapings the tree dies anyhow.
3. Because by felling the tree, a yield is obtained of from 12 (at the least) to 18 or even 30 kilograms of slab Caucho. That is, a tree yielding 2 kilos per year for five years, gives a total of only 10 kilos, whereas by felling it, 12 kilograms may be obtained at one operation.
4. When a tree is tapped to death, the saplings die off, and so do not replace it.

Yet on the Putumayo, in the newly opened Caucho district in Colombia, the Caucho trees are invariably tapped.

There are two trees yielding the product known as Caucho, which the Peruvians style *caucho blanco* and *caucho roja*, or white and red caucho, according to the color of the bark. The white variety is the one I have referred to throughout. The so called "red caucho" gives a very poor yield, hardly 5 kilograms, and it is rarely cut. I have cut only one myself, which, after eight hours of jolly hard work, gave the enormous amount of 4½ kilograms of slab Caucho and about ½ kilogram of ball. Yet it was a regular forest giant, 9½ feet in diameter. The picture in THE INDIA RUBBER WORLD of October 1, 1901, [page 9] seems to be of a very small Caucho tree. I should reckon its age at eighteen to twenty years. Here on the Amazon the Caucho is one of the biggest trees, hardly ever measuring less than 6 feet in diameter, and I have heard of them reaching 13 feet. The biggest I ever cut had a diameter of 10 feet;

it gave 28 kilograms [=61.6 pounds]. Of course the diameter of the tree is much increased by the *sapucemas*, as we call them—a species of flying buttress running up some four feet from the ground.

The process employed for obtaining the *latex* is as follows:

1. Gash the branches with a machete.
2. Gash the *sapucemas* and leave the tree three days.
3. Fell the tree.
4. Gash the trunk.
5. Collect the *latex*.

The *latex* from the gashes made before felling the tree gives the "ball" and "scrap" Caucho; that from the trunk the "slab." The usual proportion of ball and scrap to slab is 1 to 6. A tree giving 24 kilograms of slab Caucho, therefore, should yield 4 kilograms of ball, which is marketed here as "Caucho sernamby," the larger product being known simply as "Caucho." The coagulation is effected with soapsuds, though occasionally certain plants and roots are used instead.

I cannot for the life of me make out why people should plant *Castilloa elastica* instead of the *Hevea*. I am assuming, of course, that the *Castilloa* of Mexico and Central America is the same as our Caucho. I tried my hand last year at planting rubber in the suburbs of Manáos. I planted 100 saplings [cuttings?] each of *Castilloa* and *Hevea*, and 50 seeds of each. None of the *Castilloa* seedlings lived, and 30 of the saplings died. Of the *Heveas*, 14 saplings and 42 seedlings died. The remainder are all thriving. They were planted in clayey soil, on an incline, with northwestern exposure, and in the shade of banana trees. In the state of Grão Pará there are some plantations of *Hevea*, but none, I believe, have yet been tapped. Many rubber men in this region are planting a few saplings [cuttings?] along their *estradas*—say 20 or 30 each per year—by way of experiment.

As to the yield of *Hevea*: On looking over my notes I find that the average yield per tree of sixteen *estradas* (in widely scattered districts) in which I have worked, was 1½ ounce per day, exclusive of the scrap collected from the trunks at the end of the week—say ¼ ounce per tree.

Manáos, Brazil, April 12, 1902.

COMMENT BY THE EDITOR.

It is apparent, from the preceding article, that there are yet points bearing upon some important Rubber species which are not yet generally clear. For example, botanists have reached the conclusion that the South American trees yielding what is known commercially as "Caucho" [Spanish for Caoutchouc] are identical with the tree yielding the rubber known as "Centrals." This is the tree native to Mexico and Central America, designated as the *Castilloa elastica*, and now being planted extensively. But Senhor Garnier's description of the Caucho tree, based upon his experience as a *cauchero*, will not suggest to the planters in Mexico a very strong resemblance to the tree with which they are concerned. The wide spreading base of the Peruvian tree trunk, and the growth from its roots of "saplings" which in time replace the felled parent tree, are unusual in the Mexican species.

But this question of identity is less important than another point mentioned by Mr. Garnier—that there are different Caucho trees, even in the Amazon valley, some of which do not repay cutting down. In Central America, as noted in a

* Rubber in Peru, where Spanish is spoken, is called "Caucho"—which is Spanish for Caoutchouc. The Peruvian rubber is, for the most part, different from Pará rubber, and in order to preserve the distinction, the Spanish term Caucho is applied to it in most markets.—THE EDITOR.

monograph by Mr. Th. F. Koschny, there are no fewer than three different kinds of *Castilloa*—not counting the "Tuno" tree—varying in the amount of their yield of rubber. There is a possibility, therefore, that not all the *Castilloa* plantations now being made will prove productive, for the reason that the seeds planted may in some cases have been gathered from valueless trees.

As for Mr. Garnier's remarks upon the fatal results to the Caucho tree of tapping, the experience of the Peruvians is not necessarily conclusive. In the collection of Pará rubber—from the *Heveas*—some trees yield indefinitely while others are soon killed, according to the degree of care in tapping. Observations made in Mexico would indicate that a permanent annual yield may be had from the *Castilloa* by proper management. As to our correspondent's wonder that any rubber tree but the *Heveas* should be planted, it is only necessary to suggest that there are rubber producing areas in which the Pará tree will not thrive.

The data given above on the yield of *Hevea* fail to include any statement of the number of times the trees are tapped during the season. With the daily average yield mentioned, the product of a tree tapped 100 times in a year would be 9 pounds 6 ounces of good rubber, and say 2 pounds of coarse. But, as we have mentioned in several recent issues, the length of the season and frequency of tapping are by no means uniform.

NEWS AND VIEWS FROM MANAOS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Brazilian nut crop now being over, the landholders are turning their attention to the rubber crop for the coming season, and already large shipments of goods have been made from Manáos to the rivers Juruá, Purús, Japurá, and Madeira, and rubber is trickling in from the Enbira, Tarauacá, and other affluents of the Juruá. The nut season has been very poor, as regards both quantity and price.

The production of Upriver rubber is not expected to be so large during the coming season, for many people are saying that rubber at 4 \$ 500 Brazilian is not worth working. Yet the receipts are larger to date than last year at this time. The price here is equivalent to 50 and 55 cents a pound for fine, and further up it is selling at 25 to 30 cents.

As indicating the tendency to introduce modern improvements in Amazonian towns, it may interest some of the readers of THE INDIA RUBBER WORLD to know that an electric lighting plant has been installed at Labrea, on the river Purús, at the point where the Ituxy joins the Purús, 692 miles from the Amazon. The plant was constructed by the C. & C. Electric Co., of New York, and is based on the Nernst lamp system. The same company will probably supply a plant for Manacapurú, in the same region. The town of Labrea is also planning to obtain a water works system.

The Indians on the river Japurá have been out on the war path, burning two or three rubber stations and killing some thirty persons.

The Amazon cable is as usual broken, so that business in rubber has been done by fits and starts, depending entirely on the arrival of ships bringing news of exchange rates from Pará.

The greatest present need of the Amazon country is a better, quicker, and cheaper means of steamer communication with the United States.

THE CONWAY CONCESSION ON THE ACRE.

EVERYBODY here is talking about the concession by the Bolivian government, of the Acre rubber district, to the

American syndicate, of which THE INDIA RUBBER WORLD has lately published accounts. The river Acre rises in Bolivia—in which country it is called the Aquirí—but enters Brazil before discharging into the Purús, one of the largest tributaries of the Amazon. The highest point on the Acre navigable is 1058 miles distant from the Amazon. The chief towns (they are called "cities") are Floriano Peixoto, on the Brazilian section, and Puerto Acre (or Puerto Alonzo), at the boundary, in Bolivia. At the latter place a Bolivian custom house exists and a fort is being built; a mule road is also being opened to La Paz, the capital of Bolivia. On the Brazilian Acre are rubber stations at Apuhý, Arares, Nazareth, and the state revenue station at Caquetá. On the Bolivian section there are rubber stations at Flor de Ouro and at Bagaro, where Galvez, the head of the late so-called "republic of Acre," fired upon a Brazilian boat.

The dispute at one time between Bolivia and Brazil over the ownership of this territory arose from the trouble in determining the exact source of the river Javary, the division line being specified as running from that point to the mouth of the river Beni. This point having been settled, Peru now bases a claim to a portion of the Acre district, on another imaginary line, and has filed a formal protest against the validity of the concession granted to Sir Martin Conway.

That the Acre district is the richest portion of the Amazon valley there can be no doubt, some of the *seringales* there yielding from 8 to 12 kilograms of fine rubber a day, per *estrada* of 180 trees. [This is equal to 2.3 ounces per tree. Elsewhere in this paper the same writer refers to 1.5 ounces as a good average yield.—THE EDITOR.] The Caucho has been largely worked out on the Brazilian Acre, but doubtless very much still exists on the upper waters of the river.

At present the prices of goods are very high on the Acre, owing to heavy freight rates and the fact that everything must be imported. In 1900 I paid at the rate of \$1 a pound for jerked beef, and everything else in proportion. But a fairly active man could earn \$8 to \$12, gold, a day, at working rubber, and in sixteen days I once made \$1400 cutting Caucho on the Napury, a branch of the Acre. But the Caucho is gone in that region, and rubber is selling at 50 cents a pound in Manáos and 15 to 20 cents on the Acre.

Several steamers ply between the Acre and Manáos and Pará, at least two a week leaving Manáos for that river at the height of the season. The Acre is somewhat rich in minerals, coal, gold quartz, and tiny emeralds having been found in various parts.

Manáos, Brazil, April 14, 1902.

L. G.

"CAOUTCHOUC OIL FOR USE IN BOILERS."

TO THE EDITOR OF THE INDIA RUBBER WORLD: In a certain newspaper in Manchester I have observed a paragraph, credited to your journal, giving particulars of the experiments of a chemist in Hanover, Germany, in relation to "Caoutchouc Oil for Use in Boilers." The story of the Hanover chemist and his experiments is an old one. I myself saw it in print six years ago, and made a note of the fact of its appearance.

I always find that these experiments are very excellent in their way, but their usefulness is spoiled, because no quantities are given. Advice is freely given, but when it comes to recommending the quantity per horsepower, the scientists fail to enlighten the factory owner, just as the Hanover chemist has done with the Caoutchouc oil.

A. W. TRENNERY.

Bristol, England, April 16, 1902.

ANNUAL MEETING AND DINNER OF THE NEW ENGLAND RUBBER CLUB.

THE Exchange Club, in Boston, offers so many advantages in the way of accessibility, rooms, and service, that, for the third time in its history, the New England Rubber Club chose that as its ideal for the annual meeting and banquet on the evening of May 13. From 6 to 6.30 o'clock there was held in the ample smoking room an informal reception, at the close of which, President Augustus O. Bourn called the members to order for a brief business meeting. The secretary, Mr. Henry C. Pearson, presented the following report, which was accepted:

MR. PRESIDENT AND MEMBERS OF THE NEW ENGLAND RUBBER CLUB: A brief glance at the record of the past year shows that the New England Rubber Club has grown in members, in popularity, and in influence. The total membership to day is 149. We have in twelve months lost by resignation 9, but in the meantime have gained 20 regular and 24 associate members. Three times during the year have we met, fraternized, dined, and been entertained by distinguished speakers. "The Twentieth Century Dinner," the "Midsummer Outing" at the Misery Island Club, and the "Tropical Symposium" were all occasions of much enjoyment. The various committees, Dinner, Entertainment, Sports, etc., have done their work thoroughly and willingly, and deserve the commendation of the whole Club. The amount of work that the Executive Committee has accomplished is large, and always characterized by an absence of burdensome formality. The committees' duties have been made pleasant by the tender of the directors' room at the offices of the Revere Rubber Co., and our fellow member, Mr. Morse, himself a judge of good cigars, always saw to it that we were well supplied.

The Club to-day is an institution known in all of the rubber centers, and spoken of as an instance of the wisdom and breadth of view of the New England rubber trade.

During the year that is before us it is to be hoped that this organization will continue to grow in strength and influence, and that it will be deemed advisable to secure permanent quarters for it, as a meeting place for the trade, for visitors, and for the creation of a library of rubber literature. Respectfully submitted, HENRY C. PEARSON, Secretary.

The annual report of the treasurer, Mr. George P. Whitmore, was also read and accepted, embracing the following statement:

RECEIPTS.			
Bank balance April 15, 1901.....	\$	633.44	
From members for initiation.....		70.00	
From members for dues.....		985.39	
From members for dinners.....		588.75	\$2,277.58
DISBURSEMENTS.			
Dinners, etc.....	\$	1,163.19	
Flowers.....		60.00	
Printing, postage, etc.....		121.82	
Members for over-paid dues.....		20.00	
			1,365.01

Bank balance and cash on hand April 21, 1902. \$ 912.57

The treasurer's report was accompanied by the following statement of the auditing committee:

We hereby certify that we have carefully examined the books of account of the treasurer of the New England Rubber Club, with the vouchers produced, for the period starting April 15, 1901—the date of his last report—and that the statement as rendered by the treasurer (copy annexed) is true and correct, as disclosed by said books as of April 21, 1902.

GEORGE P. EUSTIS, }
J. FRANK DUNBAR, } Auditors.

The next business before the meeting was a brief amendment to the constitution, which read as follows:

As a mark of especial respect, an honorary president and one or more

honorary vice presidents may be elected at any regular or special meeting, by ye and nay vote.

This was unanimously adopted. The Hon. Elisha S. Converse was then elected honorary president, and the following were elected honorary vice presidents: George A. Alden, James Bennett Forsyth, George H. Hood, Robert D. Evans.

The Club then proceeded to ballot for officers for the ensuing year and elected:

President—AUGUSTUS O. BOURN.

Vice President—LEWIS D. APSLEY.

Treasurer—GEORGE P. WHITMORE.

Secretary—HENRY C. PEARSON.

Assistant Secretary—WILLIAM H. GLEASON.

Directors—Costello C. Converse, Joseph Davol, Allen L. Comstock, Walter S. Ballou, John H. Flint, George H. Forsyth.

THE BANQUET.

THE banquet which followed the business meeting was served in the ample dining hall of the Club, where covers had been laid for over a hundred guests. The tables were tastefully decorated with flowers, and in an alcove, screened from the diners by a small forest of palms and tropical plants, an orchestra discoursed excellent music. The menu was excellent and served in the best of style.

MENU		
	Little Neck Clams	
	HORS D'OEUVRES	
Radishes	Olives	Salted Peanuts
	SOUP	
	Mock Turtle, clear, aux quenelles	
	Consomme, Magenta	
	FISH	
	Boiled Salmon, Sauce Musseline	
Cucumbers		Potatoes
	RELEVÉ	
	Saddle of Mutton, Currant Jelly	
Vegetable Printaniere		Potatoes, Duchesse
	Asparagus, Sauce Hollandaise	
	PUNCH	
	GAME	
	Broiled Squabs on Toast	
Salad		Pomme, Paille
	DESSERT	
	Strawberry Frozen Pudding	
	Cakes	
Cheese		Coffee

When at length the coffee was served and the smoke of the perfectos began to circle toward the ceiling, Governor A. O. Bourn, the president, rose and gracefully thanked the Club for the honor it had paid him in again electing him to the office. He also warmly commended the creation of the office of honorary president and honorary vice presidents, and said that in filling those offices as they had, the Club members had done a graceful and worthy act. He then paid a brief friendly tribute to the new honorary officers individually, and at the close introduced the Hon. Arthur H. Wellman, of Malden, as the first speaker.

Although a young man, Mr. Wellman has long known Mr. Converse, and in the very eloquent speech that followed he did ample justice to the character and attainments of the "Grand Old Man" of the rubber trade.

At the close of his speech, which was applauded to the echo, Mr. T. E. Stutton gave a five minutes' monologue which was so full of fun and good stories that the rafters rang with laughter.

The next speaker was Henry M. Rogers, Esq., of Boston. Mr. Rogers, an attorney, as president of the Century and Tavern clubs, and as a personal friend of most of those present, was well equipped to interest the audience. His speech was a message to the young men present and was full of eloquence and dramatic power.

Mr. Stanley Nichols followed with a few stories in Irish dialect and a song that brought an enthusiastic encore.

Mr. James Acton, editor and proprietor of the *Canadian Shoe and Leather Journal*, of Toronto, was the next speaker, and caught the attention of the audience instantly by remarking that "Canadians might be slow, but that they did not walk backwards to keep their trousers from bagging at the knees." His speech was full of good feeling, humor, and common sense, and made a decided hit.

Mr. W. B. C. Fox, a humorist of more than local fame, and who by the way is a graduate from the rubber trade, was next introduced, and, together with Mr. Stanley Nichols, gave a series of duets that amused the guests. The staidest members of the Club laughed till they cried.

Mr. Elliott M. Henderson, treasurer of the Manhattan Rubber Manufacturing Co. (New York), then told briefly of a recent trip to Nicaragua, and of the many incidents that made travel in that country pleasant and otherwise.

He was followed by Mr. J. Jackson Todd, president of the Chicago-Bolivian Rubber Co., a graceful and cultured speaker, who beautifully described the journey from the Pacific coast over the lofty Andes and down to the tropical plains where the rubber tree flourishes.

During the evening the following verses were read, causing much amusement:

THE RUBBER KING.

A MAN looked o'er the rubber trade
With eager longing squint,
"I'll be their King," he firmly said;
"Sure as my name is Flint."

"I'll weld them into one big firm
And handle all their gold,
And every pound of rubber bought,
By me it shall be sold."

So he began a trust to build,
And then another trust;
Some he invited with a smile,
To some, he said, "You must."

But as the old firms joined his ranks,
New ones began to sprout,
'Till when he thought his job was done
There were less in than out.

So then he formed a monster firm
With millions in its hands,
To corner every pound of gum
In all the rubber lands.

He bought, and bought, and bought again,
And borrowed as he bought,
Until he found the world's supply
Was larger than he thought.

Yet still he bought, to keep the price
From dropping out of sight,
And always told the rubber men
He had the market tight.

Then came a sudden rending crash;
The King, Oh, where was he?
A Wall street echo faint replies,
"The King is O. U. T."

The King is not a penitent;
Remorse he has not seen;
Of sorrow he has not a bit,
Yet his regret is Keene.

In addition to the guests of the Club there were present as guests of the individual members: Mr. B. G. Work, vice-president of The B. F. Goodrich Co. (Akron, Ohio); Mr. E. Lawrence Barnard, of S. D. Warren & Co. (Boston); Messrs. F. F. Schaffer, of Naugatuck, Conn., Charles A. Emerson, C. E. Wardbrook, John S. Patterson, S. W. Bourn, A. O. Bourn, Jr., J. B. Henderson, H. C. Johnson, W. H. Chase, Henry J. Doughty, Rufus Pendleton, A. P. Spear, W. E. Piper, E. H. Cutler, W. H. Mayo, Ernest Jacoby, E. C. Murphy, G. L. Richards, C. A. Richmond, W. H. Palmer, G. H. Stedman, E. C. W. Bliss, George Bassett, William Williman, and F. C. Lowthorp.

STANDING COMMITTEES.

THE following appointments have been made by the executive committee, composed of all the officers and directors of the Club:

Entertainment Committee—H. C. Pearson, William F. Mayo, E. S. Williams, Theodore S. Bassett, William J. Cable.

Dinner Committee—F. H. Jones, G. P. Whitmore, Walter M. Farrell, J. H. Stedman, Charles H. Arnold.

Resolutions Committee—Arthur W. Stedman, Eugene H. Clapp, George P. Whitmore.

Auditing Committee—George P. Eustis, J. Frank Dunbar.

RUBBER TIRES FORTY-SIX YEARS AGO.

IN connection with a communication from Mr. Henry W. Kellogg, in the last *INDIA RUBBER WORLD*, regarding his suggestion of a rubber tire as early as 1865, it may be mentioned that in 1856 two Boston mechanics designed a set of rubber tires, which were manufactured by the Boston Belting Co., and



used for some time on a buggy in and around Boston. These men were George Souther and George H. Miller. The first tires made were so soft that they used to fly out of the channel when driven

fast, and they had another and harder set made, which proved more successful. The tire channel, shaped somewhat like the cut herewith, was about $\frac{3}{8}$ inch deep on the outside. The rubber tire was about $\frac{7}{8}$ inch in thickness and was made almost square. The tire was made "snug" and "sprung on" with a rope. The square corners fitted into the socket and the tire was tightly held in place by the pressure. There was about $\frac{1}{2}$ inch rubber outside the socket. The young inventors were much satisfied with the result of their work, and were about to file an application for a patent, when the chief of police of Cambridge—one Robert Taylor—warned them that the running of such a vehicle was a nuisance, and scared them out of making any further use of it.

"THE PRICES OF RUBBER GOODS."

TO THE EDITOR OF THE *INDIA RUBBER WORLD*: I have read your leading editorial in *THE INDIA RUBBER WORLD* for May, entitled "The Prices of Rubber Goods," and wish to express my appreciation of it. You have in a very few words summed up the situation most completely, and I agree with you fully in the position taken. I think it important enough to have copies of this article reproduced and sent to all of our agents and customers the world over, giving, of course, *THE INDIA RUBBER WORLD* credit for it. I have no doubt it will enlighten many concerning the true state of the market for manufactured rubber goods.

Yours respectfully, BOSTON BELTING CO.,

By JAMES BENNETT FORSYTH, General Manager.

Boston, Mass., May 5, 1902.

THE ACRE RIVER CONCESSION.

IT is possible that very serious international complications may yet have to be settled in connection with the leasing of the territory of the Acre to an Anglo-American syndicate, under the concession the details of which have appeared in THE INDIA RUBBER WORLD. Within three years past there have been in this territory at least two uprisings against the Bolivian government. These were probably instigated by Brazilian settlers in that region, but they were suppressed with the help of the Brazilian government, which, after a long continued dispute, conceded the territory to belong to Bolivia. But now that the concessions arranged for by Sir Martin Conway have been ratified by the Bolivian legislature, Brazil appears disposed to feel that Bolivia has practically given away its territory to a foreign government, and much ill feeling exists in consequence.

The Brazilian congress was opened at Rio de Janeiro on May 3, and President Campos Salles, in his message to that body, called attention to the lease by Bolivia of a vast territory in the Amazon valley to an American syndicate, having powers of internal administration. Brazil, he said, replied to Bolivia's offer to take one-fifth of the syndicate's holding by saying that such territory then leased is still the subject of contention with another nation, which is Peru, and that Bolivia, by the proposed lease, which gives to the lessee the use of a military force, really gives up her sovereign rights, so that, if Brazil were a party to such an arrangement, she would have to meet face to face authorities which she never can and never will acknowledge. This declaration was made to Bolivia in a note dated April 14, the government having simultaneously asked congress to withdraw the treaty of commerce and navigation which had been submitted to its approval.

The *Brazilian Review* (Rio de Janeiro) says: "President Salles has received a telegram from the editor of the *Amazonas* stating that his energetic action in regard to the lease of the river Acre region has aroused much enthusiasm at Manáos, where crowds parade the streets, vigorously cheering the president."

The *South American Journal* (London) says: "The contract gives power to the company to raise arm, equip, and maintain a force of soldiers, police, and armed vessels. And this is the part which has caused the greatest alarm and anger of the Brazilians. The Brazilian government has withdrawn the commercial treaty between Brazil and Bolivia, which was before the senate for approval. The Rio papers say the government intends to prohibit the passage through Brazilian territory, either on the water or lands, of any person belonging to or employed by the company or syndicate."

* * *

MR. N. H. WITT, of the long established rubber trading firm of Witt & Co. at Manáos, Brazil, has favored THE INDIA RUBBER WORLD with a statement regarding the sentiment on the Amazon with respect to the Acre concession:

"It is regarded there as an anachronism for a modern republic to put any of its territory under control of a private corporation, and especially one organized under foreign laws, under such conditions as prevailed when the East India Company was chartered by Queen Elizabeth to undertake the work which it carried on for nearly three centuries in India. The natives of that country were a subject race, whereas the people now living in the Acre territory are free men and independent citizens of a republic in the twentieth century. Such men are not apt to submit willingly to the exercise of police powers by the paid agents of a foreign corporation whose presence on the

ground is solely for the purpose of making profits for private shareholders. One reason for the interest of Brazilians in the matter is that many of them feel that the Acre by right belongs to them. The natural configuration of the country indicates it to be a part of Brazil; the waters of the Acre flow through Brazil into the Amazon; and the only practicable outlet of the country is through Brazilian territory. It is true that Brazil consented to a construction of the treaty defining the boundary between her own territory and Bolivia which gave the Acre to the latter. Under the theory that 'might makes right,' Brazil could readily have retained this district, and defended her position on the ground that all the development of this district has been made by Brazilian settlers. There is practically no Bolivian population in this territory, and the citizens there who would come under the control of the Anglo-American syndicate are mostly Brazilians. It is felt in Brazil that the fact that Bolivia has been willing to lease the Acre country is a confession of her inability to administer and develop her own territory. Even if Brazil should not be able legally to resist the use of the Amazon by the agents of the lessees of the Acre, it is certain that many ways could be found by the people along the great stretch of waterways between the Acre and the ocean to make it so uncomfortable for the *concessionaires* as to discourage their work very greatly."

Mr. Witt is not a citizen of Brazil, but feels that his knowledge of the feeling of the people among whom he lives justifies him in suggesting this as a statement of public opinion on the Amazon.

RECLAIMED RUBBER IN ENGLAND.

ONE of the outcomes of the high price of Pará rubber [says London *Engineering*] was a more general recognition of the advantages of the African product. Another result—and one, it must be confessed, of not quite so commendable a nature—was to bring into increased use what is known as recovered or reclaimed rubber, a product of varying composition, and in many cases of dubious qualifications as a substitute for new rubber. It has, however, many legitimate uses in low quality goods, and has undoubtedly come to stay. A large amount has of late years come to us from America as a product of old goloshes; but it is somewhat interesting to note that a large works, financed by Americans, has recently been erected in the neighborhood of Liverpool to engage in its manufacture. Of course, there are Englishmen engaged in the business, but the invasion of American capital and American methods is quite a new departure, and one which cannot fail to have an important influence both upon the position of our producers and upon the American exporters.

ENGLISH GARDEN HOSE MAKING.

GARDEN hose in the United States is usually made in 50 foot lengths; one special kind, however, being made in 400 and 500 foot lengths. The short lengths of hose, according to American practice, are made on iron mandrels. According to the English practice garden hose is made in 60 foot lengths, and on solid rubber mandrels. Of course after a time these mandrels give out from being over cured, and also from constant stretching grow a little smaller in the middle, but they have many advantages. For example, the hose, after being made up can be coiled and cured in French talc. They are also very easily removed, as in drawing them out they stretch a little, which of course, makes the diameter less than when they are in their normal state.

NEW GOODS AND SPECIALTIES IN RUBBER.

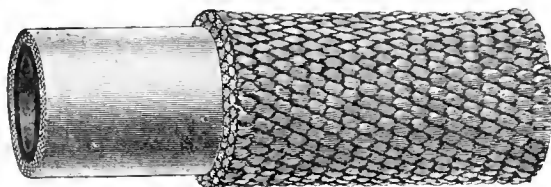
THE "GOLF" FOUNTAIN SYRINGE.

THE manufacturer is fortunate, not only who can place upon the market now and then a new and useful article, but who can also impart novelty to a staple line of goods. Fountain syringes have been so long in use, and so many manufacturers have essayed improvements in them, that one might think that the limit of change had been reached with regard to them. But the article illustrated herewith is in appearance wholly different from anything offered hitherto, and it is so attractive withal, that it cannot fail to be noticed in any stock of druggists' sundries. Besides, it embodies new features of merit in construction. The "Golf" fountain syringe is particularly adapted to the use of travelers or wherever economy of space and convenience is desired. Attached to the bag by a specially patented device, is a waterproof pouch or wrapper of the same ornamental appearance as the

bag, into which, after use, the syringe may be rolled up, the rubber tubing wound around it, and the roll thus made slipped into the pocket or carried in a satchel without taking up any appreciable space. It entirely does away with the clumsy old style box, and there is nothing about its shape or appearance to indicate its contents. The hard rubber pipes are held in place on the face of the bag by a patented device which prevents them from being lost, and by which they are always at hand. The rubber tubing is made flat, except at the ends, so that it may be coiled up without kinking, as the old style will do, and at the same time produce a more copious and rapid flow of water. The bag is made of fine fabric of a beautiful golf pattern—hence the name—coated on the inside with pure black rubber, the seams and neck thoroughly reinforced, and combining elegant appearance with great strength and durability. [Parker, Stearns & Sutton, New York.]

COWEN STEAM HOSE.

THE inside of this article is similar to a regular high grade steam hose, and added to this is a heavy seamless, closely woven, cotton jacket, which more than doubles the strength of the hose. It will stand 1000 pounds water pressure, and give a long service under high pressure. As a protection to the

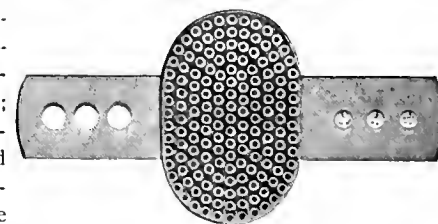


hose, a waterproof woven jacket is superior under many conditions to either wire or marline, as wire becomes bent and the marline, if a single strand is cut, has a tendency to unwind. The heavy woven jacket is impervious to water, oil, or acid, and a desirable protection against chaffing, cutting, jamming, or other

damage. In addition to the steam hose, an air drill hose and a water hose are made under the "Cowen" brands. [Boston Woven Hose and Rubber Co., Boston, Massachusetts.]

HOLLOW TOOTH RUBBER BRUSHES.

Two of the illustrations herewith relate to the "Vita" bath, flesh, and massage rubber brush, the object of the illustrations being to show the different applications which may be made of this article. The "Vita" brush is constructed for durability and effectiveness; it is entirely flexible, with handle straps of one piece with the brush, adjustable to fit any size hand, firm and snug as the hand itself. It is also provided with an extension strap for use in treating parts of the body difficult to reach with the brush in one hand. The flat ended hollow fingers provide a working surface of velvety softness and resiliency; their action is cleansing, stimulating, and developing, by friction and suction. The



"Vita" brush is furnished in black or red rubber. The black brush is recommended for use in hospitals and sanitariums, as it may be quickly sterilized by boiling. One of the illustrations shows the "Military" rubber horse brush, made on the same principle, for use in cleaning, shedding, and massage. The retail price of each of these brushes is \$1. [The Flexible Rubber Goods Co., Winsted, Connecticut.]

BICYCLE TIRE PLUGGING PLIER.

IN bicycle tire repair work the best tools are needed to secure good results, and in this connection may be mentioned a steel plier specially made for the insertion of repair plugs. The illustration gives an excellent idea of the shape of such a plier, which is made 5½ inches long, in black finish, polished, or nickel plated. [Utica Drop Forge and Tool Co., No. 296 Broadway, New York.]



LOCKE CARTON FOR RUBBER SHOES.

THIS article, a patent on which has been applied for, is described by the inventor as "a shoe box without a cover." When open, it appears as a box separated by a partition to

prevent the two shoes of a pair from rubbing together. It is closed by bringing the two sections together, so that each serves as a cover to the other, making a compact and neat carton, and is held closed by a simple fastening device. It is, of course, equally available for other shoes than rubbers. [Locke Patent Carton Co., No. 9 Otis street, Boston.]

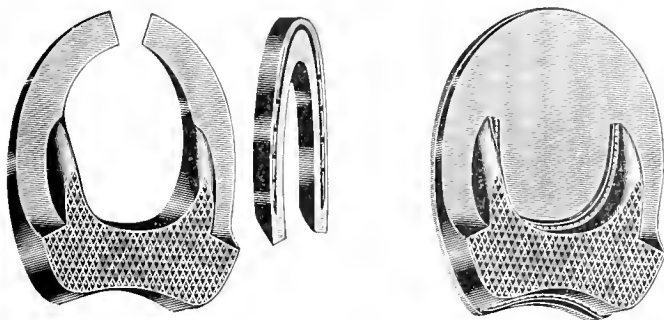
THE FOSTER RUBBER HEEL.

THE novel feature of this heel, which is designed to prevent slipping and to increase its durability, is a circular roll of heavy duck, inserted in the surface near the back of the heel, where all the wear comes, and extending nearly through. The special advantage of the duck insertion is that it adheres to any slippery substance, such as ice, wet side walks, smooth iron, and the like. Besides, the cotton plug makes the heel a little firmer, doing away with the "sneaky" feeling when walking. This

heel does not serve to carry mud into the house or office, as is the case with some rubber heels made with cavities or holes to prevent slipping. These heels are slightly concave on the side next to the leather of the shoe, to make them stick better. The same firm also market rubber soles. [Foster Rubber Co., No. 429 Albany building, Boston, Massachusetts.]

THE DRYDEN HOOF PADS.

THE "Dryden" pad is an open, and therefore a sanitary, pad. It has a four ply canvas back, and, being flexible, is easily fitted without trimming. It is a very neat appearing pad. The same manufacturers make the "Buckeye" pad, which is of the

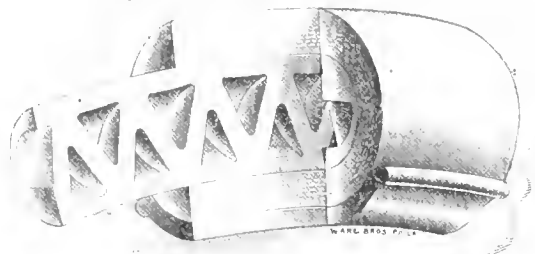


closed type. The back is made of oak tanned leather, stitched across the heel of the pad, and cemented with a special rubber cement. These pads are made with special heavy heels for winter use, or when a toe calk is necessary, or it is advisable to raise the heel to more than the ordinary height. These goods are sold to jobbers and horseshoers only. [The Dryden Hoof Pad Co., No. 433 Wabash avenue, Chicago, Illinois.]

BEASLEY ELASTIC TIRE.

THIS tire is constructed on the truss principle, with a view to rendering it strong and durable, while at the same time possessing elasticity in a high degree. The feature of the Beasley tire is the core. This is molded and vulcanized in halves, each half being a complete ring, semicircular in cross section. To form the complete tire these half cores are placed together and covered with an outer casing of canvas and rubber, similar to the usual pneumatic tire cover. But the two core pieces are not vulcanized together, or otherwise united. For

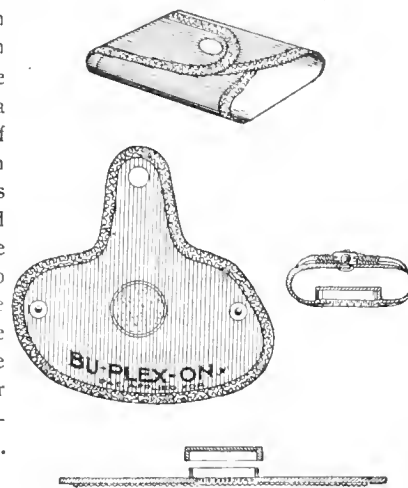
use in light vehicles, the core sections are placed together, so that the trusses coincide, but for heavy automobiles the trusses are made to cross, rendering the tire stiffer. All the wear



comes on the outer casing, which can be made light or heavy, according to the work that is expected of it. The important feature of the Beasley tire is, of course, the fact that it does not depend for its elasticity on compressed air, and while it can be, and doubtless will be, punctured, nothing short of its total destruction will disable it so that it cannot be used "to get home." [Standard Anti-Friction Equipment Co., No. 50 Broadway, New York.]

"BU-PLEX-ON."

THIS is a patented massage glove, made of a velvety, fibrous composition, and designed to remove facial blemishes, renders the complexion clean and clear, and the skin smooth and soft. The engraving gives an idea of the construction of the article, which, when folded and clasped, is adjusted to the hand and then applied to the face. It is referred to as a satisfactory article for bath and toilet use by ladies, and desirable for gentlemen's use after shaving. [The Faultless Rubber Co., Akron, Ohio.]



"WHALEBONE" PUNCTURE PROOF TIRE.

THE special compound used in this tire is referred to as being exceedingly tough, and therefore more durable for car-



riage and automobile wear than other tire stock. The fabric is also of special construction, protected by patents. These two features combine to protect the tire against punctures. The shape of the tire is another point for which excellence is claimed. Being reinforced on the upper side, the tire is never

cut by the rim, and the tire maintains under all loads the same tread surface. When deflated this tire, it is claimed, will not collapse to the same extent as the ordinary pneumatic tires of circular section, and it is therefore less liable to sustain injury from becoming deflated. The "Whalebone" and other special forms of tires are offered by the American Rubber Works Co., No. 277 Broadway, New York, reference to whose business arrangements was made in THE INDIA RUBBER WORLD of May 1 [page 265.]

NEW LASTS IN "BOSTON" GOODS.

THE Boston Rubber Shoe Co. have introduced two new styles of toe, which are not shown in their 1902 catalogue. They are the "Spartan" toe in men's, and the "Sharon" toe in women's, misses', and children's shoes. The "Spartan" is a happy medium between the "Saxon" toe and the "Cadet." It avoids the bulldog swing of the former and the straight lines of the latter. It has a fairly broad toe and a moderate swing at the ball of the foot, and is intended to be worn on a shoe with a medium extension sole. In short, it conforms to the latest lasts in leather shoes, in which the extreme bulldog swing and wide extension sole of a year ago have been greatly modified. The "Sharon" toe is similar to the "Spartan." It is just between the "Avon" toe, intended for the extreme mannish shoes which women affected some time ago, and the "Regent" toe. It fits the leather shoe now so much in vogue among women, which has fair breadth of toe, a moderate swing, and a narrow extension sole.



SPARTAN.

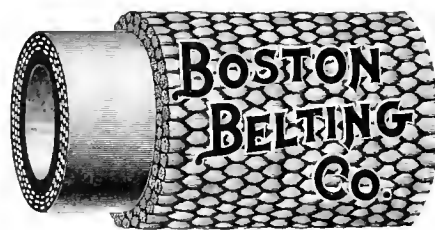


SHARON.

It fits the leather shoe now so much in vogue among women, which has fair breadth of toe, a moderate swing, and a narrow extension sole.

UNIVERSAL COTTON JACKET.

THE widespread and growing use of rubber hose for air and steam drill work, and kindred purposes, has led to new demands for hose which shall have extra strength, and likewise



capacity to withstand the wear and tear of being dragged about. Such considerations have led to the introduction of the "Universal" cotton jacket, which is a heavy seamless fabric, woven directly over the rubber hose. The "Universal" cotton jacket is painted, which renders it waterproof. It does not kink or get bent or out of shape, and does not unwind should a single strand be cut. The manufacturers issue a special price list for putting the "Universal" cotton jacket on air, gas, steam, and air and steam drill hose. The word "Universal," used in this connection, has been registered as a trade mark. [Boston Belting Co., Boston and New York.]

RUBBER EGG SHELLS.—Grover Hashman, a poultry raiser of Tiffin, Ohio, claims to have made a discovery which may revolutionize the present inconvenient method of shipping eggs. He has invented an egg shell which is elastic and unbreakable. He has done away with lime as diet for hens, and instead feeds them on pulverized rubber mixed with corn meal. This forms a rubber film around each egg, and the sulphur contained in the egg vulcanizes the soft rubber into hardness.—*News paper.*

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first nine months of the current fiscal year, compared with the same months of three years preceding—not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-February-March, 1902..	\$401,559 55,444	\$885,561 28,894	\$1,077,189 175,383	\$2,364,309 259,721
Total	\$457,003	\$914,455	\$1,252,572	\$2,624,030
1900 01 ..	391,862	641,855	1,273,876	2,307,593
1899 00	397,679	311,973	1,016,612	1,726,264
1898 99	(a)	202,672	1,052,721	1,255,393

(a) Included in "All Other" prior to July 1, 1899.

Pairs of rubber footwear exported during the same periods:

1898-99.	1899-00.	1900-01.	1901-02.
379,119	572,952	1,316,380	2,319,714

ITALY.

VALUES of imports and exports of rubber goods, expressed in lire [= 19.3 cents.]

	Imports.	Exports.
January-March, 1901.....	3,162,013	2,232,239
January-March, 1902.....	3,952,514	1,943,806

SOME WANTS OF THE RUBBER TRADE.

[246] FROM a Philadelphia jobbing house: "We should like you to advise us, who manufactures a rubber door bumper, with a rubber ball hanging on a string."

[247] "Will you kindly advise us where we can purchase rubber elastic cord, such as is used in the Whiteley exerciser?"

[248] From a rubber factory: "Kindly advise us where we can purchase a genuine English vermilion."

[249] From a rubber factory: "Can you inform us where to buy the whistles used in rubber dolls and toys?"

ANSWERS.

[239] SAYEN & SCHULTZ (No. 21 North Thirteenth street, Philadelphia) advise us that they are prepared to furnish silk covered rubber tubings for compressed air apparatus.

[240] Tyler Rubber Co. (Andover, Massachusetts) mention that they are in a position to supply spread rubber sheet, cut in strips.—C. Roberts Rubber Co. (Newark, N. J.) write that if what is wanted is fine cut sheet—of which insulated wire manufacturers use considerable—they can supply it.

[242] J. W. Buckley Rubber Co. (No. 69 Warren street, New York) state that they can supply machines for winding flat wire on hose.

[243] George Borgfeldt & Co. (Third and Wooster streets, New York) refer to their Hanover department as prepared to furnish rubber mending tissue.

THE JEFFREY MANUFACTURING CO. (Columbus, Ohio) issue a very complete catalogue of their "Century" rubber belt conveyor and elevating and conveying machinery. Reference is made to the good quality of the rubber belting used, besides which use is made of Gandy and cotton and leather belting. The "Century" belting carriers are peculiar to the Jeffrey system. The catalogue contains cuts showing their system in use in conveying ore, broken stone, sand, and gravel, and in chemical works, a carpet store, and in handling packages generally. [6''×9''. 32 pages.]

JAPAN'S CONSUMPTION OF RUBBER.

A LONDON subscriber to THE INDIA RUBBER WORLD inquires for information regarding the consumption of crude India-rubber in Japan. He says: "I know shipments have gone there, but could not find for what purpose or in what branches of trade it is used." There are two rubber factories at Tokio, exclusive of some small insulated wire plants, one of which dates back nearly twenty years and now employs 225 hands, with a capital equal to \$250,000. Rubber is imported from Java, Sumatra, Borneo, and Saigon. The manager at one time informed THE INDIA RUBBER WORLD that their Pará rubber was imported from New York, on account of more favorable freight charges than from any other port. The figures in the margin show the quantities officially stated to have been exported from the United States during the past nine fiscal years. The British official trade returns fail to specify the destination of exports of rubber except to the more important consuming countries, and therefore do not embrace the shipments, if any, to Japan.

POUNDS.	
1892-93.....	900
1893-94.....	1,932
1894-95. . . .	3,381
1895-96.....	7,590
1896-97. . . .	8,820
1897-98.....	8,352
1898-99.....	4,009
1899-00. . . .	10,756
1900-01. . . .	10,293

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED APRIL 1, 1902.

- N O. 696,423. Process of devulcanizing India-rubber. Oscar F. Duwez, Enghien, Belgium.
- 696,450. Horseshoe. William L. King, Ottumwa, Iowa.
- 696,490. Metal and rubber horseshoe. Amos Riehl, Akron, Ohio, assignor of one-third to Walter Predmore, Akron.
- 696,538. Catamenial bandage. Heinrich Bauer, New York city.
- 696,688. Rubber tired wheel. Richard Mulholland, Dunkirk, N. Y.
- 696,728. Syringe. Richard H. Eddy, Providence, Rhode Island.
- 696,746. Vehicle tire. Charles A. Pettie, Brooklyn, New York.
- 696,771. Rubber tire for vehicle wheels. John M. Sweet, Batavia, New York, assignor of one-half to Frank Richardson, Batavia.
- 696,875. Bicycle tire. Robert L. Lewis, San Francisco, California.
- 696,879. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
- 696,886. Manufacture of golf balls. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 696,887. Golf ball. *Same.*
- 696,888. Process of making golf balls. *Same.*
- 696,889. Golf ball. *Same.*
- 696,890. Golf ball. *Same.*
- 696,891. Golf ball. *Same.*
- 696,892. Golf ball. *Same.*
- 696,893. Golf ball. *Same.*
- 696,894. Golf ball. *Same.*
- 696,895. Golf ball. *Same.*

ISSUED APRIL 8, 1902.

- 696,902. Hollow seamless rubber article. Thomas W. Miller, Akron, Ohio.
- 697,033. Vehicle tire. Charles Stein, Meadville, Pennsylvania, assignor to the Stein Double Cushion Tire Co., Akron, Ohio.
- 697,055. Inner rubber tube for pneumatic tires. Frank A. Wilcox, Erie, Pennsylvania.
- 697,056. Rubber tire setting machine. John K. Williams, Akron, Ohio.
- 697,135. Antislipping device. David M. Dearing, Jackson, Michigan, assignor of one-half to Henry W. Scott, Jackson.
- 697,172. Horseshoe. John Riley, New York city.
- 697,217. Machine for working rubber. John H. Pearce, New Haven, Connecticut, assignor to Henry Stuart Hotchkiss, New Haven.
- 697,227. Inner tube for pneumatic tires. Frank A. Wilcox, Erie, Pennsylvania, and John R. Gammeter, Akron, Ohio, assignors to Pennsylvania Rubber Co.

- 697,338. Process of utilizing waste rubber scrap. Thomas Harmer, Burlington, New Jersey, assignor to the Manufactured Rubber Co., Philadelphia.
- 697,362. Life preserver. Honoré Prevost, Montreal, assignor to Henry Aylmer, Sherbrooke, Canada.
- 697,412. Syringe nozzle. Robert L. McMurrin, Portsmouth, Virginia, assignor of one-third to Robert S. Marshall, Portsmouth.
- 697,417. Golf ball. Eleazer Kempshall, Newtown, Massachusetts, assignor to the Kempshall Manufacturing Co.
- 697,418. Golf ball. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 697,419. Golf ball. *Same.*
- 697,420. Golf ball. *Same.*
- 697,421. Golf ball. *Same.*
- 697,422. Golf ball. *Same.*
- 697,423. Manufacture of golf balls. *Same.*
- 696,424. Golf ball. *Same.*
- 696,425. Manufacture of golf balls. *Same.*

ISSUED APRIL 15, 1902.

- 697,441. Apparatus for equipping vehicle wheels with tires of rubber or other elastic material. William S. Brooks, Akron, Ohio.
- 697,564. Pneumatic tire. Charles E. Thomas, Tucson, Arizona.
- 697,597. Tire inflater. Henry K. Austin, Reading, Massachusetts.
- 697,621. Pneumatic vehicle tire. Edgeworth Greene, Montclair, New Jersey, assignor by mesne assignments to the American Rubber Works Co.
- 697,625. Rubber vehicle tire. Frank H. Hyde, Toronto, Canada.
- 697,691. Cushion tire. William H. St. John, Brooklyn, New York.
- 697,792. Process of vulcanizing rubber. Augustus O. Bourne, Bristol, Rhode Island.
- 697,816. Golf ball. Cleland Davis, United States navy.
- 697,917. Manufacture of golf balls. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 697,918. Golf ball. *Same.*
- 697,919. Golf ball. *Same.*
- 697,920. Golf ball. *Same.*
- 697,921. Golf ball. *Same.*
- 697,922. Golf ball. *Same.*
- 697,923. Golf ball. *Same.*
- 697,924. Golf ball. *Same.*
- 697,925. Billiard ball. *Same.*
- 697,926. Golf ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
- 697,927. Golf ball. *Same.*
- 697,957. Methods of extracting rubber like gum from greasewood. Albert Y. Werner and Pearis B. Ellis, Carson City, Nevada, assignors, by direct and mesne assignments of one-third to William M. Stewart and Charles J. Kappler, Carson City.

ISSUED APRIL 22, 1902.

- 698,024. Golf ball. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 698,115. Mold for the manufacture of cellular cushion tires for wheels of bicycles or other vehicles. Charles Hird, Woonsocket, Rhode Island.
- 698,289. Heel lift for shoes. Jacob J. Jones, New York city.
- 698,346. Hose heel. Albert E. Wood, Meriden, Connecticut.
- 698,401. Golf ball. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 698,402. Golf ball. *Same.*

ISSUED APRIL 29, 1902.

- 698,546. Rubber tire setting machine. Joseph G. Burrows, Akron, Ohio, assignor to The Goodyear Tire and Rubber Co.
- 698,511. Syringe. Frederick H. Jones, Wakefield, Massachusetts.
- 698,512. Golf ball. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
- 698,513. Golf ball. *Same.*
- 698,514. Golf ball. *Same.*
- 698,515. Golf ball. *Same.*
- 698,516. Playing ball. *Same.*
- 698,517. Playing ball. *Same.*
- 698,545. Horseshoe. Edgar Odell and Robert Hürner, New York city.

- 698,726. Vehicle tire. William McCausland, New York city.
 698,861. Combined cushion, water bag, and fountain syringe. John P. Schan, New York city, assignor to Parker, Stearns & Sutton.
 698,860. Tire. Lionel D. Saxton, Philadelphia, Pennsylvania.
 698,959. Heel lift for boots or shoes. Jacob J. Jones, New York city.
 699,083. Puncture healing composition. William O. De Mars, Cleveland, Ohio.
 699,088. Process of manufacturing golf balls. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
 699,089. Playing ball. *Same*.
 699,090. Golf ball. *Same*.
 699,091. Playing ball. *Same*.
 699,092. Playing ball. *Same*.
 699,093. Golf ball. *Same*.
 699,094. Playing ball. *Same*.
 699,098. Link belt tire. Thomas M. Bryson, Atlanta, Georgia.
 699,111. Cushioned heel. John H. Melavin, Cambridge assignor of one-fourth to Charles F. Brown, Reading, Massachusetts.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS—1902.

- 4,666. Charles Hird, 18, Southampton buildings, Chancery lane, London. Tires for vehicle wheels. [Communication from the United States.] February 24.
 4,681. Thomas St. John Bagnall, Dublin. Pneumatic tire covers. February 25.
 4,722. William H. Ostrander and William Tyler Smith, Glasgow. Wheel tires. February 25.
 4,726. Jonathan Aldous Mays, 75, Chancery lane, London. Pneumatic tires. February 25.
 4,736. Joseph Gustave Globensky, 111, Hatton garden, London. Improvements in vulcanizers. February 25.
 4,753. Henry James Doughty, 45, Southampton buildings, Chancery lane, London. Improvements in rubber boots or shoes. [Communication from the United States.] February 25.
 4,765. Henry James Doughty, 45, Southampton buildings, Chancery lane, London. Improvements in mechanism for manufacturing rubber boots or shoes. [Communication from the United States.] February 25.
 4,806. Rudolph Fleisher and Matthias Reithmair, 40, Chancery lane, London. Pneumatic tires. February 25.
 4,876. Louis Paechtner, 45, Southampton buildings, Chancery lane, London. Improvements in waterproof fabrics. February 26.
 4,967. Harry Pace, 21, Constantine road, Hampstead, London. Elastic tires for wheels. February 27.
 4,970. Robert John Newbery, 27, Fitzroy square, London. Repairing of India-rubber tires. February 27.
 5,009. Michael Ring, 19, Southampton buildings, Chancery lane, London. Pneumatic tires for motor cars and other vehicles. February 27.
 5,012. Martin Diedrich Rucker, 46, Lincoln's Inn Fields, London. Air tubes for pneumatic tires, and apparatus for making same. February 25.
 5,016. Francois Clement, 27, Chancery lane, London. Valves for pneumatic tires and the like. February 27.
 5,021. Thomas Henry Wood and John William Hutchinson, 18, Buckingham street, Strand, London. Appliance for attaching India rubber tires to rims of vehicle wheels. February 27.
 5,056. John Purdy, 83, Wallasey village, Cheshire. Improvement in tire fabrics. February 28.
 5,145. Joseph Herbert, Nottingham. Pneumatic tires. March 1.
 5,271. Charles Tyler Manvell, 88, Mitcham lane, Streatham, London. Auxiliary tread for pneumatic tires. March 3.
 5,291. John Pollock, 55, Chancery lane, London. Improved valve for pneumatic tires. March 3.
 5,357. Stanilaus Johann von Romocki, 27 Chancery lane, London. Improvements in the devulcanization of India-rubber. March 4.
 5,399. George Edward Heyl-Dia, Liverpool. Pneumatic tires. March 4.
 5,535. James Barker, Hollinwood, near Oldham. Elastic tires and rims for wheels. March 6.
 5,685. Frederick Joseph Laws, 18, Buckingham street, Strand, London. Air tubes for pneumatic tires. March 7.

- 5,695. Charles Samson, 33, Chancery lane, London. Covers for pneumatic tires. March 7.
 5,803. Bernard Hippolyte Chameroy, Birkbeck Bank Chambers, Chancery lane, London. Improvements in protecting pneumatic tires. March 12.
 5,829. Arthur Cook, Quinton, near Birmingham. Puncture sealing device for pneumatic tires and air tubes. March 10.
 5,889. Johann Franz Lohse and Wilhelm Shulze, 27, Chancery lane, London. Supports or rests for rubber tired wheels. March 10.
 5,937. Thomas Clemmons, 24, Temple row, Birmingham. Pneumatic tires for cycles and vehicles. March 11.
 6,069-6,070. Edward Henry Seddon, Manchester. Pneumatic tires. March 19.
 6,269. Henry Edward Owen Godfrey, Acocks green, near Birmingham. Unpuncturable pneumatic tire. March 14.
 6,343. Wilfrid Maurice Short, 55, Chancery lane, London. Golf balls. March 14.
 6,344. Joseph Cohn, 5, Hatton garden, London. Injection tube with rubber mouthpiece. March 14.
 6,455. Patrick Millar Matthew, Glasgow. Improvements in calendering or friction coating fabrics with rubber and apparatus therefor. March 17.
 6,465. Frank Howard Hyde, 15, Took's court, Chancery lane, London. Vehicle tires. March 17.
 6,482. Jean Findling, 36, Chancery lane, London. Improvements in waterproof coverings for treads of elastic tires and foot wear inlays. March 17.
 6,822. Frederick Constine Kinnear, 33, Chancery lane, London. Tires for velocipedes, motors, and other vehicles. March 20.
 7,021. Edward Henry Seddon, Manchester. Pneumatic tires. March 22.
 7,061. The Self Sealing Air Chamber Co., Limited, and Alfred Franklin, 7, Staple Inn, London. Air tubes of pneumatic tires. March 22.

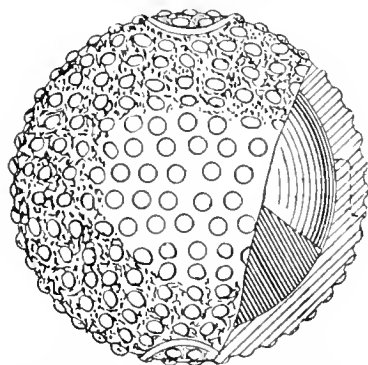
PATENTS GRANTED.—APPLICATIONS OF 1900.

- 19,705. Means of repairing pneumatic tire. Hardy, W., Gorleston, Suffolk. November 3, 1901.
 19,841. Elastic stockings. Lake, H. H., 45, Southampton buildings, Chancery lane, London. [Firm Rossi Berlam, Venice, Italy.] November 5, 1901.
 20,129. Pneumatic tires. Mays, J. A., 1, Belsize terrace, Hampstead, London. November 8, 1901.
 20,227. Method of attaching pneumatic tire to rim. Griffiths, W. A., Birmingham. November 10, 1901.
 20,299. Rubber tire. Wise, W. L., 46, Lincoln's Inn Fields, London. [Paulitschky, R., Wienstrasse, and Wuske, F., 3, Canova-gasse, Vienna.] November 10, 1901.
 20,360. Cushions or pillows. Haddan, R., 18, Buckingham street, Strand, London. [Meinecke & Co., New York, United States.] November 12, 1901.
 20,689. Molds for rubber teats. Armstrong, M. D., 25, Hampton road, Forest gate, Essex, and Dowell, J., 88, Bishopsgate street within, London. November 16, 1901.
 20,707. Exercising apparatus. Ryan, M. B., 12, Erfstrasse, Cologne, Germany. November 16, 1901.
 20,775. Method of attaching tire to rim. Walster, E., and Walster, J., Epworth, Lincolnshire. Nov. 17, 1901.
 20,822. Pneumatic tire cover. Westwood, F., Mosely, Birmingham. November 19, 1901.
 20,846. Pneumatic tire. Pitt, G. W., and Martin, E., Stoke Newington, London. November 19, 1901.
 20,984. Waterproof garments. Burberry, T., Basingstoke Hampshire. November 20, 1901.
 21,125. Nonslipping sole for boots and shoes. Hartrick, A. S., Heyfield, Colony of Victoria. November 22, 1901.
 21,146. Pneumatic tire cover. Rydin, G. A., Achtmeyer, W., and Achtmeyer, C. A., Boras, Sweden. November 22, 1901.
 21,477. Pneumatic tire. Cooke, J. H., "Ivanhoe," Francis street, Bainsdale, and Hammond, J. S. H., York street, Sale, Victoria. November 27, 1901.
 20,500. Puncture locator. Croft, C. J., 12, Stockwell road, Stockwell, Surrey, and Dannell, F. E., 12, Malpas road, Brockley, Kent. November 28, 1901.
 21,996. Inflating valves. Storz, C. A. G., Frankfort-on-the-Main, Germany. December 4, 1901.
 22,002. Inflatable horse collars. Schibalski, G., and Schibalski, E., and Kutschea, T., Beuthen, Germany. December 4, 1901.

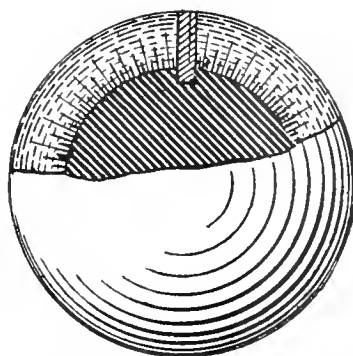
THE KEMPSHALL MANUFACTURING CO.'S GOLF BALL PATENTS.

THE company named above is chiefly notable at the present time for the great number of patents it is taking out for golf balls, and processes of manufacturing them. The company was incorporated under the laws of New Jersey, October 9, 1901, with an authorized capital stock of \$200,000, and the principal office of the company being in Arlington, New Jersey. The par value of the stock is \$100

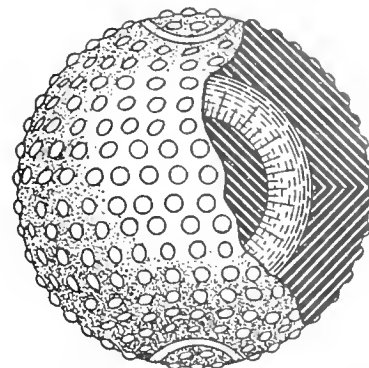
celluloid, the mass of Gutta-percha being theoretically larger before the cover is put on than after. The same principle is applied to a rubber center. Another patent calls for the softening of a Gutta-percha shell upon a filling wholly or partly of soft rubber, thus compressing the rubber until the shell hardens and holds it in place. Another calls for a shell of vulcanized soft rubber, which is expanded by Gutta-percha, injected there-



Compressed Center of Gutta-percha or India rubber, Celluloid Cover. [Patent No. 695,813—E. Kempshall.]



Gutta-percha Center, Expanded Rubber Core, Celluloid Outside. [Patent No. 696,351—F. H. Richards.]



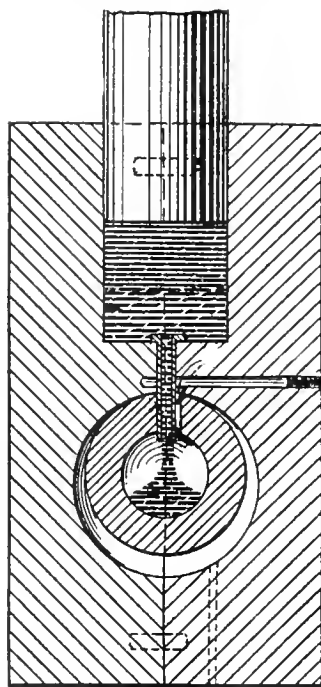
Gutta-percha Center, Expanded India-rubber Interior Cover, Gutta-percha Outside Cover. [Patent No. 696,369—E. Kempshall.]

per share, and the following persons have each subscribed for three shares: Eleazer Kempshall, Boston, Mass.; Charles W. Royce, Newton, Mass.; Henry S. Chapman, Glen Ridge, N. J.; Edward N. Crane, Newark, N. J. Among the other objects of the corporation, is the purchase of the inventions of Eleazer Kempshall in golf balls and kindred articles, and the granting of licenses for their manufacture.

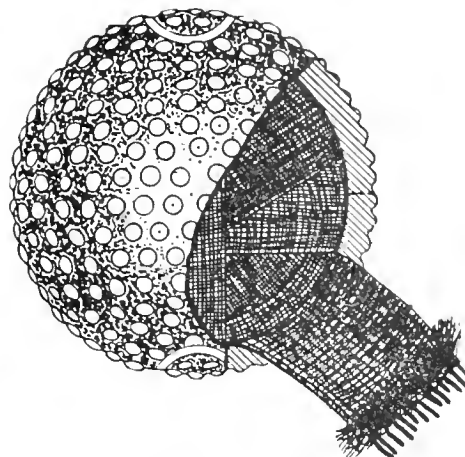
These patents, most of which were issued in March, April, and May, of this year, and assigned to the Kempshall Manufacturing Co., are probably the most pretentious series of India rubber or Gutta-percha patents that have appeared in many years. There are no fewer than fifty-five patents, embracing 656 claims, issued to Mr. Kempshall, together with five patents, embracing 104 claims, issued to Francis H. Richards, of Hartford, Connecticut, and assigned to the Kempshall company, making a total of sixty patents, with 760 claims.

These patents embrace both the process of manufacture and the finished article, and on analysis develop the following salient features:

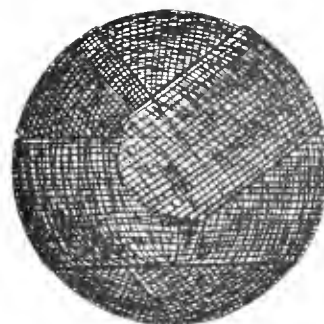
The compression of India-rubber or Gutta-percha as a spherical center of a golf ball, or the expansion of a hollow sphere of rubber or gutta by forcing plastic material within it. These two principles appear in nearly all of both the Kempshall and the Richards patents, with of course an infinite number of variations. One patent, for example, shows a mass of Gutta-percha compressed between two lap joined shell segments of



Mold and Syringe-like Injector for Expanding and Filling Hollow Rubber Balls with Liquid Gutta-percha. [Patent No. 696,351—F. H. Richards.]



Elastic Fabric Center, Celluloid or Gutta-percha Core. [Patent No. 696,888—E. Kempshall.]



Elastic Fabric Center, Wound Under Tension, with Inside of India-rubber Thread Wound Under Tension. [Patent No. 696,888—E. Kempshall.]

in in liquid form, and allowed to harden. This same type of ball is also covered with a celluloid shell. Still another has a

Gutta-percha core, an India-rubber envelope, and a Gutta-percha shell. Another is a sphere of vulcanized rubber expanded by liquid gutta with a leather or fabric cover. Still another contains rubber threads wound under tension, covered with strips of elastic webbing wound under tension, and a Gutta-percha or celluloid cover. In certain of the patents, linen thread, rope fiber, strips of Gutta-percha, solid India-rubber bands, and strips of celluloid are all used, and many have celluloid, Gutta-percha, India-rubber, or leather covers.

In reading the patent specifications it is interesting to note that the term "highly vulcanized" rubber is often used, and the manner in which it is spoken of would lead one to believe that it is compounded in the usual manner to get the right weight and rigidity. It is easy to understand how a hollow ball of rubber can be filled with some substance like liquid gutta and expanded. But how a solid ball of rubber, particularly if it is highly vulcanized, can be compressed, is a little more difficult to understand. Speaking off hand one would fancy it would be about as easy to compress a cubic inch of water.

The special virtue claimed for the celluloid cover is that it is smooth, does not chip or fracture holds its color, and that it is dead under a light blow, and lively under a heavy one. It is said the Kempshall Manufacturing Co. are now having these balls made in a rubber factory in New England, the kind being the rubber sphere expanded by liquid gutta and covered with celluloid.

EARLIER COMPOSITE GOLF BALL PATENTS.

JUST at this time, when so many golf ball patents are being taken out, it is interesting to pick up bits of history concerning the attempts to secure patents on balls partly of Gutta-percha

and partly of other material. Two illustrations herewith show samples of balls made by James Bennett Forsyth, of Boston, in 1896, the cover being of Gutta-percha and the center being made of vulcanized rubber, cork, wood, and a variety of other materials. This application for patent was not allowed, two patents being cited, one granted to Hillman, October 22, 1895, for a method for molding golf balls, and a British patent to Brend, granted November 14, 1891. The United States patent commissioner said, incidentally, that there is no invention in using heat and pressure to unite the parts of a golf ball. The English patent above cited describes in one claim a golf ball made of celluloid, having an air chamber inside, while in the third claim the interior is made of some material such as cork, asbestos, or other material, covered with celluloid and colored without paint. The celluloid cover is made in halves, one half having a ridge or pins around the face, fitting into a channel or hollows around the face of the other half.



SAMPLE GOLF BALLS MADE BY MR. FORSYTH.

[India-rubber, Wood, Cork, Rubber and Coarse Fiber, and Wood Pulp and Rubber used for Centers.]

A DECISION AGAINST THE GRANT TIRE PATENT.

THE Grant patent for solid rubber wheel tires has been the subject of another judicial decision, which would appear to be more conclusive than any other which has yet been rendered in regard to it. This is United States patent No. 554,675, issued February 18, 1896, to Arthur W. Grant, and by him assigned to The Rubber Tire Wheel Co., of Springfield, Ohio. This company and others were merged later into the Consolidated Rubber Tire Co., and the article manufactured under this patent has been known as the Kelly-Springfield rubber tire. In the case of The Rubber Tire Wheel Co. v. The Columbia Pneumatic Wagon Wheel Co., in the United States circuit court for the southern district of New York, a decision was rendered December 27, 1898, by Judge Thomas, in which the validity of the Grant patent was sustained.

Later, in the United States circuit court for the northern district of Ohio, suit was brought by The Rubber Tire Wheel Co. against The Goodyear Tire and Rubber Co., alleging infringement of the Grant patent in respect of the "Wing" solid tire manufactured by the defendants. The decision in this case, rendered November 23, 1901, by Judge Wing, sustained the claim as to infringement.

The Goodyear company thereupon signed a *supersedeas* bond for \$100,000, under which they were permitted to manufacture tires as before, pending an appeal. On May 6, last, a decision was rendered in the United States circuit court of appeals in

the sixth circuit, at Cincinnati, Judge Lurton delivering the opinion of the court, the essence of which is the declaration of the patent to be "void for want of patentable novelty," thus rendering unnecessary the consideration of any question of infringement.

"The subject of the controversy," says the court, "is a simple one of solid rubber tires for vehicles. When Grant entered the field as an inventor of rubber tires, he found it occupied by an army of patentees who had preceded him, and no less than eighty prior patents have been put in evidence as anticipations or as illustrations of the history of the art. Grant, in part, seems to recognize the crowded character of the field open to him, for he concludes an account of his construction by claiming that by his mode of construction he has produced 'a rubber tired wheel rim which is capable of more use and which will remain in position better than any other tire which has ever been put upon the market.'"

The first claim of the Grant patent is for a combination of three elements:

First.—A metallic channel rim, having angularly projecting flanges, shown as *b'* in Fig. 2, forming a channel with inclining sides, into which the rubber fits.

Second.—A solid rubber tire having an inner portion adapted to fit in the channel rim and an outer portion forming an angle or corner with the inner portion, the corner being somewhat below the top of the channel seat or metallic rim.

Third.—Independent retaining wires passing entirely through the rubber tires horizontally, and located below the outer periphery of the flaring sides of the channel seat. The drawings heretofore set out will better explain these parts, especially if examined in the light of the description of the patent also fully set out.

The decision points out, "first, that it was not new to set solid rubber tires into iron channels with flaring flanges, the widest part of the rubber being below the periphery of the channel sides; second, that it was not new to use solid rubber bands of the 'peculiar shape' of that employed by Grant so far as that shape has any substantial bearing upon the question of novelty here to be considered; and third, that it was not new to use one or two or more wires for the purpose of retaining the rubber tightly in the channel seat.

"The mere bringing together of old parts and allowing each to work out its own old effort without producing some new machine or product is not invention.

"A combination of old elements, to be patentable, 'must produce a different force or effect, or result in the 'combined forces or processes, from that given by their separate parts. There must be a new result produced by their union; if not, it is only an aggregation of separate elements.'"

After analyzing various claims made regarding the functions of a rubber wheel tire, the decision continues: "Grant has shown great industry in acquiring knowledge of what others had done or taught in the attempt to make a marketable rubber tire wheel, and has shown good judgment in selecting from earlier structures or earlier teachings the best of the devices thus made known, and good judgment in combining them with mechanical skill. But we can discover no trace of invention or original thought, for his parts as combined do substantially the same operations which they did in the combinations from which he took them. He has united the most beneficial features of other patents, and in that sense has made a new combination. But he has not produced a new manufacture or a new result in a patentable sense."

The decision says in one place: "Much of the superiority, or rather superior durability, of Grant's tire is undoubtedly due to the quality of the rubber used, in respect to which there has been in late years a great improvement."

The Rubber Tire Wheel Co. (Springfield, Ohio) were incorporated under the Ohio laws, June 2, 1894, to manufacture solid rubber tires under a patent issued in 1893 to Arthur W. Grant. The original capital was \$10,000, which was gradually

increased to \$45,000. The Grant patent which has been the subject of later litigation was issued in 1896. In April, 1899, the Rubber Tire Wheel Co. were merged, for a consideration reported at \$1,250,000, into the Consolidated Rubber Tire Co., together with several tire selling concerns, the authorized capital of the new corporation being \$10,000,000. At that time THE INDIA RUBBER WORLD was informed by E. S. Kelly, one of the original incorporators of the Springfield company, that, dating from February 1, 1899, contracts were entered into by which the company's orders for rubber would be divided between The B. F. Goodrich Co., the Diamond Rubber Co., The India Rubber Co., and the Hartford Rubber Works Co., said contracts to last during the life of the leading patent. Subsequently, however, the Consolidated company arranged for their own manufacture of rubber, under the name of the Buckeye Rubber Co., since which time a disposition has been apparent on the part of the other rubber companies to enter the trade on their own account, especially since the demand for vehicle tires has become so great.

The B. F. Goodrich Co. inform THE INDIA RUBBER WORLD: "We first commenced to manufacture tires for The Rubber Tire Wheel Co. early in 1894. For some years we were the exclusive manufacturers. Our relations with The Rubber Tire Wheel Co. and their successors, The Consolidated Rubber Tire Co., have always been very close and friendly. Now that the circuit court of appeals has declared the Grant patent void, we propose to market these tires ourselves. We will also market the Firestone side wire tire, which we consider fully equal to the Kelly tire. We will have branches or connections for applying our tires in all the principal cities. Heretofore, we have confined ourselves to manufacturing tires for The Consolidated Rubber Tire Co. Hereafter, however, we will be prepared to manufacture any tires that may be wanted."

The Goodyear Tire and Rubber Co. advise THE INDIA RUBBER WORLD: "This decision in our judgment forever eliminates the Grant patent from consideration in the solid tire business. So far as this company is concerned, it has from the beginning believed that the Grant patent could not stand the final test of a contest upon its merits. The sympathy of the trade has been with us in this fight, and very naturally we shall profit more largely than any of our competitors as the result of this decision. Our solid tire department has been running night and day steadily all through the season and expects so to continue until it is over."

THE RUBBER PLANTING INTEREST.

THE ninth annual report of the Selangor Planters' Association, in the Federated Malay States, for 1901, states that during the year 247,458 rubber trees, from Pará seed, had been planted by its members, bringing the total acreage up to 7487, which equals 11.7 square miles. The number of trees per acre is not indicated. Of "rambong" (*Ficus elastica*), 34,804 trees were planted on about 700 acres, or an average of about 50 per acre. Trees of this species grow so large that some authorities consider 10 to the acre enough, when full grown. The report indicates that an encouraging view of the rubber prospect exists. The association numbers 68 members, with about 14,661 acres under cultivation, mostly in coffee, the acreage of which is decreasing, on account of declining prices for the product. The high prices obtained for sample lots of rubber sent to London prove to have been most encouraging to the planters.

BUFFALO AND HONDURAS CO.

[Plantation office, Chemelicon, department of Cortez, Honduras. Head office: No. 1000 Ellicott square, Buffalo, New York.]

INCORPORATED under the laws of New York state; capital, \$400,000. A tract of 1225 acres has been acquired near San Pedro Sula, in northeastern Honduras—on the north bank of the Sula river, and 37 miles from Puerto Cortez, on the gulf, the principal port of the country. It is also convenient to a railroad. The work of clearing has been begun, to prepare for planting rubber and bananas next month. Officers: George H. Dunbar, president; George R. Howard, vice president; Harry Yates, treasurer; F. B. Walker, secretary—all of Buffalo, Messrs. Dunbar and Yates are now on the plantation. The resident manager there is Howard Sawyer Reed, whom the Smithsonian Institution sent to Honduras at one time to make a scientific collection. He favorably impressed the govern-

ment, and was sent as one of its representatives to the Pan American Exposition at Buffalo last year. There he interested several citizens in rubber culture, resulting in the organization of the present company.

CONSOLIDATED UBERO PLANTATIONS CO.

[Properties at Ubero, state of Oaxaca, Mexico. Offices: No. 87 State street, Boston, Massachusetts.]

INCORPORATED April 3, under the Maine laws, to deal in real estate and operate plantations; capital, \$2,500,000. The Mexican Coffee and Rubber Co., in 1898, purchased 5000 acres of land near Ubero, portions of which, from time to time, have been sold to rubber and coffee planting companies. The first 1000 acres of land was sold to the Ubero Plantation Co. of Indianapolis, Indiana. The owners of the remaining 4000 acres, and of 2000 acres adjoining, have united in forming the new company named above. The parties to the consolidation are the Mexican Coffee and Rubber Co., The Mutual Planters' Co., The Indiana Rubber Co., and Littell & Co., all of Indianapolis; The Ubero Plantation Co. No. 2, of Terre Haute, Indiana, and the Wisconsin Coffee Co., of Milwaukee, together with a number of small planters, some of whom hold not more than 100 acres of land. The Consolidated company thus begins with 6000 acres of cleared land, five established development camps, company's office, plantation house, and store, and a pineapple tannery, together with the various plantings of rubber, coffee, pineapples, etc. William D. Owen, the original purchaser of the lands on which this development work has been done, is chairman of the executive committee of the Consolidated company, and F. L. Torres, general manager of the various Ubero rubber planting companies, will sustain a similar relation to the Consolidated company.

PAN AMERICAN PLANTERS' CO.

[Plantation "Santa Isabel," in the state of Oaxaca, Mexico. Office: Nos. 153-155 La Salle street, Chicago, Illinois.]

INCORPORATED in Illinois October 19, 1900; capital, \$50,000. No active work has been done until recently, but the capital is now nearly all subscribed and development is about to begin on a 5000 acre tract between the Colorado and Trinidad rivers, near the confluence forming the San Juan, in Oaxaca. It is also near the Vera Cruz and Pacific railway and twenty miles from San Juan Evangelista, Vera Cruz. A specialty is to be made of rubber planting, for which the land is believed to be well adapted on account of the number of native trees found. Officers: Hon. Charles Foster, late secretary of the treasury of the United States, Fostoria, Ohio, president; James P. Hankey, vice president; Arthur L. Moore, secretary; John A. Wilferth, treasurer—all of Chicago. James Brydon is plantation manager.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO.

[“Hacienda del Corte,” district of Juchitan, state of Oaxaca, Mexico. Office: Herman building, Milwaukee, Wisconsin.]

THE camera seems destined to play an important part in the development of plantation enterprises in Mexico. As now managed, the various planting companies draw their capital from innumerable investors, scattered throughout the United States, most of whom contribute but a small amount each. Naturally many people will hesitate to part with their money, to be invested too far away from home for them ever to hope to see the work in progress for which they are paying. But the liberal use of photography has put it in the power of the investors in rubber planting to see every step in development made by their companies. Thus a recent pamphlet issued by the company named above shows thirty-seven photographic views—of lands being cleared, of rubber and coffee nurseries, of transplanted trees in various stages of growth, of buildings,

of laborers in their different forms of employment, and so on. It is, altogether, a very interesting publication, and particularly in the suggestion of the utility of the camera for reporting what is being done on one plantation. It is the custom with these planting companies, for the investors to select annually an “inspector” to visit Mexico and report on their interests. We should think it advisable to select always an inspector capable of taking “snap shots” at what he saw, and having his pictures developed for the benefit of the persons who are paying the bills.

THE OBISPO RUBBER PLANTATION CO.

[Plantation “El Obispo,” Tuxtepec, state of Oaxaca, Mexico. Offices: Park Row building, New York.]

THE company above named have issued “Book No. 1,” to be one of a series showing from time to time the progress made on their plantation. Here are shown more than fifty photographic views of scenes on the plantation, embracing lands freshly cleared, rubber nurseries, transplanting, wild rubber trees, laborers at work and at rest, plantation buildings, etc. — C. S. Donaldson, of Scottsdale, Pennsylvania, who was selected as the first annual inspector, has made a report to his fellow shareholders under date of March 15, 1902. He found 40,000 trees planted, and nurseries containing over 700,000 seedlings; also 100 acres of corn in tassel, being the second crop of corn on the same ground since the clearing of the virgin forest ten months before. He states that about 1500 acres had been cleared at the date of his visit.

THE IMPERIAL PLANTATION CO.

[Plantation in the state of Vera Cruz, Mexico. Office: Society for Savings building, Cleveland, Ohio.]

THE president of this company, who is president also of the Mexican Investment and Manufacturing Co., informs THE INDIA RUBBER WORLD that one of the leading rubber manufacturing companies has agreed to take all the rubber that can be produced on their two plantations, now under development, in consideration of the rubber being specially prepared.

A QUESTION OF BOOKKEEPING.

TO THE EDITOR OF THE INDIA RUBBER WORLD: If not too much trouble, will you kindly inform me whether a plantation company having its property in Mexico can keep all its accounts in English, or does the Mexican law compel the use of Spanish? Perhaps you can ascertain the common practice of American companies doing business there, and I trust you can favor me on this point, as we do not wish to be tied up to Spanish any further than is absolutely necessary to comply with the law. Very respectfully,

Providence, Rhode Island, May 24, 1902.

ANY company transacting business in Mexico is required by law to keep books, the character of which is specified, and which must be open for inspection by the authorities. They must be kept in the language of the country, with all accounts expressed in the money of the country, besides which each page of such books must have an internal revenue stamp affixed. Mexican plantation companies with headquarters in the United States receive their balance sheets and other accounts expressed in Mexican money, to be converted into gold values at the current rate of exchange.

CONAKRY (FRENCH AFRICA).

SOME views of cultivated *Castilloa elastica* rubber plants now growing at the experimental gardens at Conakry, in the *Revue des Cultures Coloniales*, are wonderfully like pictures of the same trees growing in Mexico, but for the presence in the views of African natives. There are illustrations also of the Pará and Ceará rubber trees in the same gardens, where no small interest is manifested in rubber cultivation.

ANNUAL MEETING OF THE UNITED STATES RUBBER CO.

THE tenth annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock M., on May 20, at the registered offices of the company in New Jersey, at New Brunswick. The annual reports of the president and treasurer were presented and accepted, and an election of directors held for the ensuing year. The reports referred to were much more comprehensive than usual, containing information in regard to the condition of the company not before made public, for which reason they are given in full here:

PRESIDENT'S ANNUAL REPORT.

NEW BRUNSWICK, NEW JERSEY, May 20, 1902.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: It is now ten years since the United States Rubber Co. was chartered under the laws of the state of New Jersey and began operations. At the outset there was acquired a large majority interest in the capital stock of nine of the leading companies manufacturing rubber boots and shoes, thus giving the United States Rubber Co. the control of about one-third of the output of those products in the United States. The following year the Woonsocket Rubber Co. and the Goodyear's India Rubber Glove Manufacturing Co. were added, through the purchase of their capital stock, thereby raising the percentage of output to about one-half of the total. In 1898, by the acquisition of the stock of the Boston Rubber Shoe Co., the largest of the individual companies, the percentage of product of the United States Rubber Co. and of its subsidiary companies was further increased to three-quarters of the total output of rubber boots and shoes in the United States.

Some of the advantages of consolidation which were indicated in the prospectus issued at the formation of the company have been to an extent realized, while others have not. Among those realized may be mentioned:

1. Economies in manufacture resulting from each mill having the benefit of the improved methods of manufacture employed in other mills.
2. Consolidated purchasing of certain materials.
3. Reduction in selling expenses, owing to the large product sold.
4. Better supervision of credits, and consequent reduction of losses by bad debts.

Among the advantages anticipated but as yet not realized are:

1. Advantage in purchase of crude rubber.
2. Distribution of manufacture of different classes of goods in the various mills (the preservation of brands and trade-marks being an obstacle thereto).

COMPETITION.—While the United States Rubber Co. during the ten years of its existence has met with a fair degree of success, it became apparent more than a year ago that prices were maintained at a figure which stimulated competition, and the formation of new companies and investment of new capital. Consequently, in January and February, 1901, your directors determined that it was wise to make a marked reduction in prices, which brought the selling price of the standard grades of goods down to about the cost of manufacture. The result of this reduction has been that the sales have largely increased. For the year ending March 31, 1902, the gross sales of the company were \$45,917,536.84, as against gross sales of \$32,224,216.14 the previous year; and for the year ending March 31, 1902, the net sales (including miscellaneous goods) were \$25,436,150.59, as against \$20,853,633.94 the previous year, being an increase in gross of 42.5 per cent. and in net of 22 per cent.

EXPORTS OF GOODS.—While the exports of rubber footwear are still relatively small, it is gratifying to note that our foreign trade has increased from a total of net sales in 1899 of \$122,322.59, to \$741,737.58 the past year.

FUTURE POLICY.—The regaining of trade through the reduction in prices as above shown has been largely accomplished.

The problem now before us is, how to manufacture and market the large product of goods at a fair margin of profit.

That much is being accomplished, both in the way of economy and of efficiency in the important departments of purchasing, manufacturing, and selling, is evidenced by the following:

CRUDE RUBBER.—While in the past our crude rubber has been purchased largely through importing houses, necessitating the payment to them of commissions, the United States Rubber Co., under arrangements recently inaugurated, imports most of its crude rubber directly under its own letters of credit, thereby saving not only in commissions and otherwise, but also obtaining other advantages as the result of direct importations. As the cost of crude rubber is nearly one-half the total cost of the manufactured product, the new management feels that this subject demands the closest attention, and that owing to the very large consumption of crude rubber by the United States Rubber Co. (amounting to \$9,068,379.11 last year) even greater opportunity exists for obtaining our crude rubber advantageously than has as yet been realized.

CONDITION OF MANUFACTORIES.—The physical condition of the extensive plants of the United States Rubber Co. and its constituent companies has been well maintained, the buildings being in a good state of repair, and the machinery up-to-date and first-class in every respect.

SELLING AGENCIES AND BRANCH STORES.—Selling agencies have been consolidated where it could be done without detriment to trade, and the "Branch Stores" belonging to the company have been incorporated.

AUDITING OF BOOKS.—Your management has arranged for quarterly audits of the books and accounts of the United States Rubber Co. and of its subsidiary companies, by Messrs. Haskins & Sells, certified public accountants.

FINANCIAL MATTERS.—Soon after the organization of the new board of directors of the United States Rubber Co. a year ago, the officers and directors were called upon to adjust a large indebtedness which was then found to be owing the company. This adjustment has been accomplished, and while it has been necessary for one of our subsidiary companies (the Meyer Rubber Co.) to take over securities for a large amount, it is believed that serious loss has been avoided.

FUNDING INDEBTEDNESS.—The management has recently consummated the funding of the entire floating indebtedness of the United States Rubber Co. and of its subsidiary companies, by the issuing of \$12,000,000, five per cent. three year, funding notes, which on April 1, 1902, were sold to the First National Bank and Blair & Co., of New York. These funding notes are secured by notes of the subsidiary companies aggregating \$12,000,000, held by the Morton Trust Co. of New York, as trustee for the holders of the funding notes. The existence of a large floating indebtedness, from the very inception of the United States Rubber Co., has been a menace to a thoroughly economic and independent administration of its affairs, and its funding has placed the company in a stronger and more secure position than ever before.

TREASURER'S REPORTS.—By the treasurer's reports which follow, it has been the intention to give the stockholders much fuller information than has been contained in the reports of past years. The result of the year's business, so far as profit is concerned, is not flattering. But while it is true the operations of the United States Rubber Co. and its subsidiary companies show only a very small net profit, namely: \$119,495.60; and the consolidated property account of the United States Rubber Co. and its subsidiary companies, shows a surplus of but \$42,011.75; and while it is also true that the charging off on property account of items of doubtful value (nearly all of which existed prior to the beginning of the year) shows a deficit of \$1,110,344.15 in the property account of the United States Rubber Co. itself—nevertheless, it can be said that it is believed by the management that everything is now brought down to a rock bottom basis, and that from this time forward the process of building up should go on. The inventories of

manufactured goods and of materials and supplies have all been taken at low valuations.

METHOD OF SELLING GOODS.—Your president feels that the policy of the company which has prevailed for some years in the sale of its goods should be broadened to meet present conditions, and he recommends an enlarged policy in the marketing of our great product. Although close economies, and a curtailment of expenses, may without danger be introduced in the purchasing and manufacturing departments, they should be employed with caution in the selling department. For some years our goods have been sold under what is called the "contract system." While this system possesses many advantages, and reduces the labors of the selling department, the company in the opinion of your president has outgrown the system. Its maintenance is also open to the objection of giving undue advantage to competing companies selling directly to the retail trade.

It is therefore recommended that the subject receive the careful consideration of the board of directors in determining the policy of the company that shall prevail another year in the sale of its goods.

CONCLUSION.—Much that is preparatory to financial success has been done the past year, and good results should follow. The company is now on a solid foundation with ample working capital, and with the plans for concentration and economies in purchasing and manufacturing, and the broad policy in sales recommended by your management to follow the large volume of business already secured, there is every reason to believe that in the future the business of this company can be made as profitable as the rubber boot and shoe business in the United States has been for the past half century. Respectfully submitted,

SAMUEL P. COLT,
President.

TREASURER'S REPORTS.

UNITED STATES RUBBER CO.

INCOME AND PROFIT AND LOSS ACCOUNTS FOR YEAR ENDING MARCH 31, 1902.

Surplus March 31, 1901		\$25,013.01
Income from operating plants and income from investments.....	\$ 115,802.44	
Commissions on goods sold	\$ 740,403 05	
Total income.....	\$ 856,205 49	
Less expenses:		
Selling.....	\$477,553.93	
General.....	320,271.01	797,824 94
Operating profits.....	\$ 58,380 55	
Less Interest:		
On borrowed money..	\$394,519.36	
Allowed customers...	81,969.32	476,488 68
Deficit for period.....	\$ 418,108.13	
Amounts charged off applicable to business prior to March 31, 1901.....	717,249.03	
Deficit to surplus.....	\$ 1,135,357.16	
Deficit per general balance sheet.....	\$ 1,110,344.15	

GENERAL BALANCE SHEET, MARCH 31, 1902.

ASSETS.

Property, plants, and investments.....	\$48,645,870.07	
Cash.....	\$ 1,418,972.25	
Bills receivable.....	208,676.72	
Accounts receivable.....	4,710,618.83	
Inventory, manufactured goods, and materials....	1,137,633.65	\$7,475,901.48
Deficit.....		1,110,344.15
Total		\$57,232,015.70

LIABILITIES.

Capital stock Preferred...	\$23,525,500.00	
Capital stock, Common...	23,666,000.00	\$47,191,500.00
Bills payable.....	\$ 3,345,000 00	
Loans payable.....	2,780,356.48	
Accounts payable.....	419,188.33	6,544,544.81
Due subsidiary companies.	\$ 3,435,197.07	
Rebates, etc., not yet due..	60,773.82	3,495,970.89
Total		\$57,232,015.70

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING MARCH 31, 1902.

Gross sales, boots and shoes.....	\$45,917,536.84	
Less:		
Discounts, rebates, allowances and returns	24,721,107.03	
Net sales, boots and shoes....	\$21,196,429.81	
Miscellaneous net sales.....	4,239,720.78	
Total net sales.....	\$25,436,150 59	
Cost of goods sold.....	\$23,105,814 70	
Manufacturing expenses and taxes.....	632,670.55	23,738,485.25
Manufacturing profits.....	\$1,697,665.34	
Selling and general expenses.....	1,223,196.35	
Operating profits.....	\$474,468.99	
Other income.....	708,126.40	
Net profits.....	\$1,182,595.39	
Less:		
Interest on borrowed money.....	\$620,709.20	
Interest on Boston Rubber Shoe Co. debentures.....	240,000.00	
Interest allowed customers	202,390.59	1,063,099.79
Surplus for period.....	\$119,495 60	

CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1902.

ASSETS.

Property and plants.....	\$46,293,839.46	
Inventories, manufactured goods, and materials.....	13,642,883.48	
Cash.....	\$ 3,387,599 25	
Bills receivable.....	500,125.43	
Accounts receivable.....	5,800,936.47	9,688,661.15
Securities owned.....		3,333,656.93
Miscellaneous assets.....		172,195.08
Total assets.....		\$73,131,236.10

LIABILITIES.

Capital stock, Preferred.....	\$23,525,500.00	
Capital stock, Common.....	23,666,000.00	\$47,191,500.00
Boston Rubber Shoe Co. debentures.....		4,800,000.00
Fixed surpluses.....		6,939,505.74
Bills payable.....	\$ 9,892,257 00	
Loans payable.....	2,829,192.83	
Accounts payable.....	1,196,077.96	13,917,527.79
Deferred liabilities.....		211,339.70
Reserved for doubtful accounts.....		29,351.12
Surplus.....		42,011.75
Total liabilities.....		\$73,131,236.10

JAMES B. FORD,
Treasurer.

THE ANNUAL ELECTION.

FIFTEEN directors were elected—the same number as last year—though the by laws since 1899 have provided for nineteen directors. During the year four vacancies had occurred in the board, by death and resignation, which had been filled by the remaining directors. The board as it existed just prior to the annual meeting was reelected without change. There had been some expectation of a contest for control, owing to the fact that the firm of Talbot J. Taylor & Co. had sent out requests for proxies. Only one ticket was presented, however, for which 298,912 shares were voted, except that 87,189 additional shares—being those for which the Messrs. Taylor's representatives held proxies—were voted for M. S. Burrill. The board is now constituted as follows, the figures in parenthesis following the names of the directors indicating the number of full terms for which each has been elected to date:

[NOTE.—The positions held by these gentlemen in the various rubber shoe manufacturing companies are indicated in another place.]

- ELIAS C. BENEDICT, No. 80 Broad street, New York. [1]
Of E. C. Benedict & Co., brokers.
Vice President: Indianapolis Gas Co.
Director: Kern Incandescent Light Co.
- MIDDLETON S. BURRILL, No. 49 Wall street, New York. [1]
Of Zabriskie, Burrill & Murray, lawyers.
Director: Rubber Goods Manufacturing Co.

SAMUEL P. COLT, Providence, Rhode Island. [11]

President: Bristol County Gas and Electric Co., Industrial Trust Co. of Providence, National Eagle Bank of Bristol, Rhode Island Safe Deposit Co.
Vice President: First National Bank of Bristol.
Director: American Woolen Co., Denver City Tramway Co., Newport Trust Co., Providence Banking Co., Providence Telephone Co.

ELISHA S. CONVERSE, No. 101 Milk street, Boston, Massachusetts. [5]

President: Malden National Bank.
Director: Exchange National Bank of Boston, Colorado Smelting Co.

HARRY E. CONVERSE, No. 101 Milk street, Boston, Massachusetts. [5]

Director: Exchange National Bank of Boston, Glenark Knitting Co., Glendale Elastic Fabrics Co., Metropolitan Storage Warehouse Co., Export Lumber Co.

Trustee: Malden Savings Bank.

COSTELLO C. CONVERSE, Boston, Massachusetts. [2]

President: Ryere Rubber Co., Boston and Colorado Smelting Co., Phoenix Furniture Co. (Grand Rapids), Grand Rapids Plaster Co.
Vice President: First National Bank of Malden, Boston Land Co.
Director: National Bank of the Republic, Rubber Manufacturers' Mutual Insurance Co., Grand Rapids Brush Co.
Trustee: Boston Safe Deposit and Trust Co.

JAMES B. FORD, No. 15 Murray Street, New York. [11]

Trustee: American Bank Note Co.
Director: New York Mutual Gas Light Co., Export Lumber Co.

J. HOWARD FORD, New York. [11]

FRANCIS L. HINE, No. 2 Wall street, New York. [1]

President: Nashawannuck Manufacturing Co.
Vice President: First National Bank of New York.
Treasurer: East Jersey Water Co.
Trustee: Brooklyn Trust Co., South Brooklyn Savings Institution.
Director: Chicago, Rock Island and Pacific Railroad, Home Life Insurance Co., Liberty National Bank of New York, New Domestic Sewing Machine Co., Review of Reviews Co.

HENRY L. HOTCHKISS, New Haven, Conn. [11]

LESTER LELAND, 101 Milk street, Boston, Massachusetts. [4]

Director: Shoe Hardware Co., State National Bank of Boston, Georgetown and Western Railroad, Industrial Mutual Insurance Co.

FREDERICK C. SAYLES, Providence, Rhode Island. [4]

FREDERICK M. SHEPARD, East Orange, New Jersey. [11]

President: Goodyear Rubber Co., Rubber Clothing Co., Union India Rubber Co., Orange Water Co., East Orange Safe Deposit and Trust Co.
Director: Mutual Benefit Life Insurance Co. of Newark.

FRANCIS LYNDE STETSON, No. 15 Broad street, New York. [1]

Of Stetson, Jennings & Russell, lawyers.
Vice President: Cataract Construction Co.
Director: Alabama Great Southern Railroad Co., Alabama Great Southern Railway Co., Buffalo and Lockport Railway, Buffalo and Niagara Falls Electric Railway, Buffalo, Tonawanda and Niagara Falls Electric Railroad, Buffalo Traction Co., Buffalo Railway, Chicago and Erie Railroad Co., Cincinnati, New Orleans and Texas Pacific Railway, Crosstown Street Railway of Buffalo, Erie Railroad Co., Lockport and Olcott Railway, New York, Susquehanna and Western Railroad Co., Niagara Development Co., Niagara Falls and Suspension Bridge Railway, Niagara Falls, Whirlpool and Northern Railway, Niagara Falls Power Co., Niagara Junction Railway, South Carolina and Georgia Railway Co., Southern Railway Co. in Kentucky, Southern Railway in Mississippi, United States Express Co.

JOHN D. VERMUELE, No. 503 Broadway, New York. [6]

President: Holland Trust Co., York Cliffs Improvement Co.
Treasurer: York Water Co.
Director: Chatham National Bank of New York, Amsterdam Casualty Co., Empire Realty Co., Brigantine Co., Philadelphia and Brigantine Railroad Co.

The first meeting of the newly elected board of directors was held at the office of the company in New York on May 23, and the following officers were elected:

President--SAMUEL P. COLT.

Vice President--COSTELLO C. CONVERSE.

Second Vice President--LESTER LELAND.

Treasurer--JAMES B. FORD.

Assistant Treasurer--JOHN J. WATSON, JR.

Secretary--SAMUEL NORRIS, JR.

The Executive Committee consists of Samuel P. Colt, Costello C. Converse, Lester Leland, James B. Ford, and Francis L. Hine.

SUMMARY OF THE CONSTITUENT COMPANIES.

NEW JERSEY RUBBER SHOE CO.

NEW BRUNSWICK, NEW JERSEY.

ORGANIZED and incorporated in New Jersey in 1877; capital, \$200,000. Successive presidents, Lewis L. Hyatt, John R. Ford, and Mahlon C. Martin (elected 1890.) The latter was one of the first to suggest a consolidation of the rubber shoe trade, and the Jersey factory was the first to be acquired by the United States Rubber Co. Its plant and business were bought with the preliminary issue of shares by the United States company, which has since operated the plant in its own name, the New Jersey Rubber Shoe Co. going out of existence in 1892.

MEYER RUBBER CO.

MILLTOWN, NEW JERSEY.

ORGANIZED by Christopher Meyer and incorporated in New Jersey in 1858; capital, \$200,000. In 1861 the stock company of Ford & Co. was merged into it. Acquired in 1892 by the United States Rubber Co., for \$1,200,000, John R. Ford being the principal owner. Factory has been idle since March 3, 1897, the "Meyer" brands being manufactured since at the United States company's New Brunswick factory. The Meyer Rubber Co. continues its corporate existence.

NEW BRUNSWICK RUBBER CO.

NEW BRUNSWICK, NEW JERSEY.

INCORPORATED in New Jersey, April 18, 1850; capital \$60,000; increased 1881 to \$300,000. Acquired by the United States Rubber Co., 1892. Manufacture consolidated with the Jersey plant in 1894. Name changed to New Brunswick Tire Co. in 1896 and factory devoted to making tires, and later passed from control of the United States company. Now under lease to American Rubber Works Co.

BOSTON RUBBER CO.

FRANKLIN AND CHELSEA, MASSACHUSETTS.

ORGANIZED by George H. Hood. Incorporated in Massachusetts, 1878, with a factory at Chelsea. First manufactured wringer rolls and later mackintoshes, carriage cloth, and mold work. In 1888 purchased a factory at Franklin, and began the manufacture of rubber footwear. In 1892, having then \$300,000 capital, was acquired by the United States Rubber Co. Work ceased May 9, 1896. The rubber shoe machinery was sold later to the Boston Rubber Co. of Montreal, Limited, and the last of the material at Chelsea was sold in 1901 to a dealer in second hand machinery.

THE L. CANDEE & CO.

NEW HAVEN, CONNECTICUT.

LEVERETT CANDEE was the first to make rubber shoes under the Goodyear patents. He formed a company which was incorporated under Connecticut laws July 21, 1852; capital, \$200,000. Acquired by the United States Rubber Co., 1892, with \$400,000 capital and \$1,500,000 surplus.

NATIONAL INDIA RUBBER CO.

BRISTOL, RHODE ISLAND.

INCORPORATED in Rhode Island April 17, 1888, succeeding to the plant and business of the National Rubber Co., incorporated in 1864, which in turn succeed the old Providence Rubber Co., one of the pioneer concerns. In 1887 Colonel Samuel P. Colt became receiver of the National Rubber Co., and the reorganization was effected by him. Acquired by the United States Rubber Co., 1892, with \$1,500,000 capital and more than \$500,000 surplus. The factory produces, in addition to rubber footwear, insulated wire, rubber clothing, and druggists' sundries.

AMERICAN RUBBER CO.

CAMBRIDGEPORT, MASSACHUSETTS.

ESTABLISHED by Robert D. Evans in 1873, as a jobbing concern. In 1877, consolidated with the Eagle Rubber Co. and a factory established for rubber clothing, carriage cloth, boots and shoes, and wringer rollers. Incorporated in Massachusetts; capital, \$200,000. Factory burned in December, 1881, and replaced with new building the next year. Acquired by the United States Rubber Co. in 1892, with \$1,000,000 capital and \$1,500,000 surplus, since which time the production has been confined to boots and shoes and mackintoshes.

GOODYEAR'S METALLIC RUBBER SHOE CO.

NAUGATUCK, CONNECTICUT.

FOUNDED in 1843 as Samuel J. Lewis & Co.; incorporated under Connecticut laws February 7, 1845, with \$30,000 capital, which has been increased gradually to \$1,000,000. The company were first to introduce "arctics," invented by Thomas C. Wales, and hence became widely known as the Wales-Goodyear Shoe Co. Acquired 1892 by the United States Rubber Co. There are two shoe factories and an extensive rubber reclaiming plant, which has been employed in supplying reclaimed rubber to factories of the United States Rubber Co.

LYCOMING RUBBER CO.

WILLIAMSBURG, PENNSYLVANIA.

ORGANIZED in 1886; incorporated in Pennsylvania, with an authorized capital of \$500,000. Originally devoted to a general line of rubber goods and changed later to the production of footwear exclusively. Acquired by the United States Rubber Co. in 1892, with its capital rated at \$400,000.

PARA RUBBER SHOE CO.

SOUTH FRAMINGHAM, MASSACHUSETTS.

ORGANIZED by John N. Stickney; incorporated in Massachusetts in 1891; capital, \$200,000. Manufacturing began August, 1892, when capital was increased to \$500,000; in 1897, increased to \$1,000,000. Employed 1200 hands and made 14,000 pairs of rubbers daily, but failed to pay dividends. Directors voted June 15, 1891, to close factory. Treasurer Stickney died November, 1891. Early in 1892 assets reported not to exceed \$195,000, with large debts. Acquired in 1892 by United States Rubber Co. Plant deeded to the Hickory Wheel Co., July 1, 1893.

BROOKHAVEN RUBBER COMPANY.

SETUCKET, LONG ISLAND.

INCORPORATED under West Virginia laws, with \$300,000 capital. In June, 1888, succeeded the L. B. Smith Rubber Co., in manufacturing third grade rubber boots and shoes. The United States Rubber Co., at the beginning, in 1892, acquired the stock of Charles R. Flint in the Brookhaven company, and eventually acquired all the shares, which it still holds. Under contract of March 9, 1894, the Brookhaven factory was sold to the North American Rubber Co., with a proviso that it should not manufacture rubber footwear. The old shoe lasts on the premises were destroyed and some other material was sent to the National India Rubber Co.'s factory.

GOODYEAR'S INDIA RUBBER GLOVE MANUFACTURING CO.

NAUGATUCK, CONNECTICUT.

BUSINESS begun in 1844 by Brazilla Arntz, at Litchfield, Connecticut; removed in 1847 to Naugatuck and incorporated June 9, with \$6000 capital, under the present name, to manufacture rubber gloves, mittens, and finger cots. Later, the manufacture of clothing, boots and shoes, and druggists' sundries was added, and the capital increased to \$500,000.

In 1881 the factory of the Phoenix Rubber Co. was purchased. In April, 1893, "more than a majority of the stock" was acquired by the United States Rubber Co.

COLCHESTER RUBBER CO.

COLCHESTER, CONNECTICUT.

ORGANIZED in 1888 by George Watkinson. Incorporated April 9, 1888; capital, \$400,000. Operated the plant formerly owned by the Hayward Rubber Co. Transferred to the United States Rubber Co., August, 1893. Work suspended August, 1894. "Colchester" brand retained for some time, the goods being made at Woonsocket. Part of the plant removed to the National factory, at Bristol, R. I.

RUBBER MANUFACTURERS' SELLING CO.

Organized in 1889 by Mr. Watkinson. Incorporated February 6, 1891; capital, \$300,000. Transferred to the United States Rubber Co. with the Colchester Rubber Co.

WOONSOCKET RUBBER CO.

WOONSOCKET, RHODE ISLAND.

BUSINESS established November 25, 1864, by Joseph Banigan; incorporated 1867 as the Woonsocket Rubber Co., with \$100,000 capital; began making rubber footwear, October, 1868. Factory for boots erected at Millville, Massachusetts, in 1882; a second factory at Woonsocket—the "Alice" mill—erected in 1889. At the annual meeting, April 24, 1893, it was voted to sell the capital stock of the company—then nominally \$2,000,000—to the United States Rubber Co., to pay for which, and for the Marvel Rubber Co., and the Lawrence Felting Co., there was an issue of \$11,702,800 in new shares.

MARVEL RUBBER CO.

Incorporated in Rhode Island, October 7, 1892, by Joseph Banigan, Henry J. Doughty, and Patrick J. Wren, to manufacture a molded rubber shoe; capital, \$500,000. Organized February 25, 1893. Occupied original factory of the Woonsocket Rubber Co., and was transferred with that company to the United States Rubber Co., in April, 1893. Factory closed July 18, 1896.

LAWRENCE FELTING CO.

Factory at Millville, Massachusetts, for making felt linings for rubber boots, acquired by the United States Rubber Co., in 1893, in connection with the Marvel Rubber Co.

OFFICIAL BOARDS OF THE CONSTITUENT RUBBER COMPANIES.

AMERICAN RUBBER CO.

[Election, May 5, 1902.]

DIRECTORS: William R. Dupee, Samuel P. Colt, Harry E. Converse, Lester Leland, Costello C. Converse.

President—William R. Dupee.

Treasurer and Clerk—George P. Eustis.

MEYER RUBBER CO.

[Election, May 14, 1902.]

DIRECTORS: Samuel P. Colt, James Deshler, James B. Ford, J. Howard Ford, Lester Leland.

President—J. Howard Ford.

Treasurer—James B. Ford.

Secretary—Samuel Norris, Jr.

BOSTON RUBBER SHOE CO.

[Election, May 5, 1902.]

DIRECTORS: Elisha S. Converse, Ephraim L. Corning, Costello C. Converse, Harry E. Converse, Erskine F. Bickford, Lester Leland, Samuel P. Colt.

President—E. S. Converse.

Vice President—C. C. Converse.

Treasurer and General Manager—Lester Leland.

Secretary and Assistant General Manager—Fredrick T. Ryder.

BAY STATE RUBBER CO.

[Election, February 19, 1902.]

DIRECTORS: H. E. Converse, Lester Leland, F. T. Ryder.

President—H. E. Converse.

Treasurer—Lester Leland.

Secretary—F. T. Ryder.

BOSTON RUBBER CO.

[Election May 5, 1902.]

DIRECTORS: S. Lewis Gillett, George P. Eustis, Samuel P. Colt, Harry E. Converse, Lester Leland.

President—S. Lewis Gillett.

Treasurer and Clerk—George P. Eustis.

COLCHESTER RUBBER CO.

[Election, 1897.]

DIRECTORS: Samuel P. Colt, Robert D. Evans, Henry T. Bragg, H. M. Sadler, Jr.

President—Samuel P. Colt.

Treasurer—Henry T. Bragg.

NATIONAL INDIA RUBBER CO.

[Election, May 19, 1902.]

DIRECTORS: Samuel P. Colt, Henry L. Hotchkiss, Charles A. Emerson, William T. C. Wardwell, Fredrick T. Ryder.

President and Treasurer—Samuel P. Colt.

Secretary—Walter de F. Brown.

JOSEPH BANIGAN RUBBER CO.

[Election, April 28, 1902.]

DIRECTORS: Walter S. Ballou, John J. Watson, Jr., Samuel P. Colt, Edward R. Rice, Charles H. Guild.

President and Secretary—Walter S. Ballou.

Treasurer—John J. Watson, Jr.

LYCOMING RUBBER CO.

[Election, May 19, 1902.]

DIRECTORS: James B. Ford, Lester Leland, Samuel P. Colt, J. A. Beeber, S. N. Williams.

President and Treasurer—S. N. Williams.

Secretary—J. A. Beeber.

THE L. CANDEE & CO.

[Election, May 16, 1902.]

DIRECTORS: Henry L. Hotchkiss, Samuel P. Colt, James B. Ford, Lester Leland, H. Stuart Hotchkiss.

President—Henry L. Hotchkiss.

Treasurer—Albert C. Coe.

Secretary—H. Stuart Hotchkiss.

WOONSOCKET RUBBER CO.

[Election, April 28, 1902.]

DIRECTORS: Samuel P. Colt, Frederick C. Sayles, Walter A. Read, John W. Ellis, F. C. Sayles, Jr.

President and General Manager—Samuel P. Colt.

Treasurer—Frederick Cook.

Secretary—Charles H. Guild.

GOODYEAR'S INDIA RUBBER GLOVE MFG. CO.

[Election, May 19, 1902.]

DIRECTORS: John D. Vermeule, James B. Ford, Samuel P. Colt, C. Van Vliet, Lester Leland.

President—J. D. Vermeule.

Treasurer—C. Van Vliet.

Secretary—F. F. Schaffer.

GOODYEAR'S METALLIC RUBBER SHOE CO.

[Election, May 19, 1902.]

DIRECTORS: John D. Vermeule, Lester Leland, Samuel P. Colt, James B. Ford, Costello C. Converse.

President—Samuel P. Colt.

Treasurer—Wm. T. Rodenbach.

Assistant Treasurer—A. H. Dayton.

Secretary—Charles T. McCarthy.

tion with the Woonsocket Rubber Co., and since owned and operated by the United States company direct.

Original factory of the Woonsocket Rubber Co. in 1898, converted by the United States company into a knit boot mill, for which purpose was acquired the machinery of the Fern Brook mill, at Vonkers, N. Y., which had been supplying the United States company. This line has now been abandoned.

HAMMOND BUCKLE CO.

WATERBURY, CONNECTICUT.

INCORPORATED under Connecticut laws, April 18, 1889; capital, \$20,000. Acquired by the United States Rubber Co., 1893, and factory removed from Rockville to Waterbury, January 1, 1894. Operated by the United States company direct, in making buckles for arctics and the like.

BOSTON RUBBER SHOE CO.

MALDEN, MASSACHUSETTS.

(1) EDGEWORTH Rubber Co., incorporated October 11, 1852; capital, \$5,000; dissolved 1872. Factory taken by (2) Malden Manufacturing Co., incorporated May 4, 1853; capital, \$200,000. Elisba S. Converse elected treasurer September 8, 1853. Name changed to (3) Boston Rubber Shoe Co., May 17, 1855. Factory No. 2, Melrose, built 1881. The United States Rubber Co., in October, 1893, issued \$7,625,000 in new shares, which, together with \$1,000,000 paid in cash, were stated to be in payment for the entire capital stock of the Boston Rubber Shoe Co.—the amount then outstanding being \$5,000,000. Prior to the sale of the stock the Boston company issued to its stockholders \$5,000,000 of 6 per cent. ten year gold debenture bonds. The property of the company included the factory of the Malden Last Co.—The Bay State Rubber Co. is a subsidiary corporation, organized under Massachusetts laws, with \$5000, in connection with the production of the "Bay State" brand of rubbers.

JOSEPH BANIGAN RUBBER CO.

OLNEVILLE, RHODE ISLAND.

INCORPORATED in Rhode Island, November, 1896; capital \$1,000,000. After the death of Mr. Banigan his executors, in settling the estate, in April, 1896 "deemed it wise to sell their holdings in the Joseph Banigan Rubber Co. They sold their stock to Providence parties." Colonel Samuel P. Colt then joined the board. Talbot J. Taylor & Co. (New York) issued a circular to their customers May 19, 1899, reviewing the latest annual report of the United States Rubber Co., in which they said that certain large cash investments, not explained in the report, were "well understood to include the important Banigan plant." The capital was increased lately to \$1,500,000, when Colonel Colt stated that the company was owned solely by the United States Rubber Co.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

THE Colonial Tire and Rubber Co., of this city, has been incorporated under the laws of Delaware, with \$20,000 capital, to control the foreign rights under the patents granted to James A. Swinehart for solid rubber vehicle tires held in position by cross wire insertions. The incorporators are Mr. Swinehart, William Byrider, John Byrider, and P. D. Hall. The latter is a wealthy citizen of Akron, who formerly was identified with the Goehring Mirrow Manufacturing Co., whose property was bought by the Pittsburgh Plate Glass Co. The Colonial company contemplates the erection of a factory, but for the present their goods will be made by contract. The B. F. Goodrich Co. have secured the rights under the Swinehart patents in England, and the Colonial company for the rest of Europe. Orders for these tires have been received lately from Spain, and also for tires for the ambulances of the French army in Tonquin.

The Goodyear Tire and Rubber Co. on May 19 filed with the secretary of state of Ohio a certificate of increase of capital

to \$1,000,000. The company was incorporated in September, 1898, with \$100,000 capital, which was increased in May, 1899, to \$200,000. General Manager Seiberling informs THE INDIA RUBBER WORLD correspondent that the purpose of the increase is to cover the growth of the company's plant during the past two years, and provide for further extensions. Another large building is to be added in the near future.

The Summit Rubber Co. were incorporated under Ohio laws May 19, with \$25,000 capital, and are constructing a brick building for a factory between Akron and Barberton. The incorporators are R. M. Hollinger, J. D. Hollinger, E. J. Schulz, F. J. Steinert, and Augustus Warner, all of Akron. They are not yet ready to announce the name of the practical rubber man interested.

The Stein Double Cushion Tire Co. have their factory almost completed. Machinery is being placed in position and the company expect to begin operations about June 1, with Jacob Haber as president and manager.

The Alden Rubber Co., at Barberton, have replaced the ordinary factory whistle with chime whistles. The Alden factory is surrounded by green lawns and the new whistles are in keeping with these and the attractive vine covered walls of the building.

The Faultless Rubber Co. are about to begin work on an addition to their factory which will double the present capacity. The new structure will be four stories high, 50x20 feet, built of brick and tile, besides which a boiler house will be erected.

No disposition has yet been made of the property of the Independent Rubber Co., now in the hands of W. E. Snyder as assignee. Betzler & Wilson, owners of the building, will devote that to other purposes, and it is expected that a new stock company may be organized to purchase the idle machinery.

Help is reported scarce at nearly every rubber factory in the city. At most of the shops "help wanted" signs have been posted all spring. "We can get the here-to-day and gone-to-morrow roustabouts, but good men are scarce, and we cannot get enough though we have scoured the city and country," was the way Manager Seiberling, of the Goodyear Tire and Rubber Co., expressed the situation.

L. C. Miles and H. B. Manton, both interested in the Goodyear Tire and Rubber Co., are in Europe and expect to be in London at the time of the coronation.

Jefferson D. Slater, superintendent of the Faultless Rubber Co., has been spending two weeks at his old home in Newton, Kansas, this being his first vacation in ten years.

Many rubber men in Akron are interested in golfing. The Portage Golf Club, of which Mr. C. C. Goodrich, of The B. F. Goodrich Co., is an enthusiastic member, has expended \$1000 this spring to put its links in order.

A new steam launch on the Ohio canal and lakes adjacent to Akron is the *Corsair*, owned by Mr. B. G. Work, vice-president of The B. F. Goodrich Co., and his brother, Frederick W. Work.

MEXICO.—James Maunder writes from San Juan Evangelista, Vera Cruz, to *The India-Rubber Journal* (London): "I know of the disasters which befell some of our people who purchased a going concern—rubber—in this country; there is another concern going to be offered in London pretty soon, but take *Punch's* advice, 'Don't.' There is good wild land here to be had, near rail and river, for from 21 shillings per acre, and lots of money to be made, but the manager should be a man of experience in tropical agriculture."

MR. FLINT AND THE NEWSPAPERS.

UP to ten years ago the newspapers gave but slight attention to the rubber business. When, on the afternoon of March 30, 1892, a report was wired from Trenton, New Jersey, of the incorporation of the United States Rubber Co., with \$50,000,000 capital, there was scarcely a newspaper man in New York who knew where to hunt for the big "story" suspected to be involved. The signers of the incorporation papers were bankers and others who had no connection with the rubber trade; in the trade itself there was no name recognized generally as representative; and in such rubber stores and offices in the city as the reporters chanced to visit in search of information there really was nothing known about the United States Rubber Co. Hence, the first published accounts of the new "trust" were so mixed with fiction as to be regarded by many rubber men outside the combination as a hoax, concocted to "fill space."

But in time the new company took shape, on a bigger scale than anything before known in "industrials," and editors came to regard it as being of value as a source of news. Reporters were constantly on the lookout for what the "rubber trust" was doing, or about to do, and their work became greatly simplified when a man was found who was really "in the know"—who welcomed the news gatherers, and seldom failed to reward them with a "statement." For years no newspaper seemed able to distinguish between this "trust" and other interests in rubber, and so every inquirer for rubber news went straight to Charles R. Flint; every turn in the "market" or other movement in the trade was recorded with some reference to Mr. Flint; until this name became linked in the public mind with the control of rubber in every stage from the tropical forests to the sale of overshoes in the retail stores.

He was widely described as the "rubber king." If a man in Europe wanted \$1,000,000 to exploit rubber in South America or Africa, he sailed to New York to ask Mr. Flint for it; and the same thing was done by an Italian who found a new rubber yielding shrub in Mexico, and by every discoverer of a new "substitute," or inventor of a rubber tire, or promoter of a new company for planting rubber. Mr. Flint was summoned before state and national legislative committees when they wanted to know about the "rubber trust." When a rubber manufacturer wanted to borrow money, or capital was wanted to start a new factory, the first question asked by the capitalist approached, was how the matter was regarded by the man whom the New York *Press* once named "Charles Rubber Flint."

It was advertising of the most valuable kind, and advertising that was obtained at small cost. In fact, the frequency with which Mr. Flint's name got into print led to the suggestion in the minds of some, that Mr. Flint must have employed a "press agent." But every newspaper man who obtained an interview with that gentleman became, for the time being, his press agent. Had any reporter abused Mr. Flint's confidence, however, that source of information would thereafter have been closed to him. News gathering at best is not easy work, and it is natural that the reporter who is helped in that work should show his appreciation; had Mr. Flint been of a different temperament, nothing of an unpleasant nature might have been written about him, but his name would have appeared less prominently in the reporters' work. By the way, it may be that reportorial access to Mr. Flint's office has been facilitated by the fact that his confidential secretary was formerly a capable New York journalist.

THE RUBBER FILLED GOLF BALL.

TWO crack amateur golfers, after a recent tournament at Lakewood, New Jersey, expressed themselves in favor of the "Haskell," the new rubber filled ball. Walter J. Travis, who won the championship at Lakewood, said:

"After a trial extending over several days, and under different atmospheric conditions, I became convinced that under calm weather conditions, there was a slight difference of about five yards in favor of the rubber filled ball from the tee. With an iron, a half or three-quarter shot, with the filled ball accomplished the same as a full shot when a Gutta-percha ball was used. With the wind, however, a Gutta-percha ball had the advantage, against it, its rubber rival had the better of the argument."

"Where the filled ball had made itself felt, however, is with the short players, who, before it was introduced, were minnows as compared with whales. With their short, jerky forearm swing, however, the filled ball has worked wonders, so much so that they can almost hold their own on long courses, with the far reaching men of the first rank. The slashing, brilliant long players I don't think gain anything with a filled ball, except that it requires less effort."

Findlay Douglass said that he was using the new ball because he had not played much during the winter, and had not had enough practice to get into his customary swing. "When, however, I am properly limbered up, I am sure that I can drive as far with a Gutta ball as with the new innovation. When one is on his game and full of confidence there is a great charm as well as satisfaction in hitting the ball as hard as one's power will permit. With the Gutta ball one adds several yards to his drive, with the filled ball the difference is trivial. Furthermore, the feel, to say nothing of the sound at the moment of impact, is not to be compared. In my opinion, a naturally long player does not derive any material advantage by using a rubber filled ball."

On the heels of a recent suggestion from THE INDIA RUBBER WORLD's English correspondent that the Haskell golf ball does not appeal to the British, comes the news from London that the first and second places in the amateur championship games were both won by players using Haskell balls.

RUBBER NOTES FROM EUROPE.

THE death is reported of Robert Wild, works manager of B. Cohen, Newtown Works, a large mackintosh manufacturer at Manchester, England. Mr. Wild had been engaged in the rubber industry for forty-six years, in Great Britain and Germany, besides going at one time to Russia to start the plant of the Moscow Rubber Co. In the latter work he was assisted by his sons—Walter Wild, now works manager of the Liverpool Rubber Co., Limited, and John Wild, now engaged with the Pneumatic Tyre Syndicate, Limited, of Birmingham.

=A cover of fabric and rubber for an air ship 85 feet in diameter, the largest ever made in Germany, is now being manufactured by Franz Clouth, at his rubber works at Cöln-Nippes.

=The Victoria Rubber Co., Limited (Edinburgh, Scotland), declared dividends, for the last business year, of 5 per cent. on the preference and 2½ per cent. on the ordinary shares of their capital stock.

BRITISH PACIFIC CABLE.

THE new cable steamer *Colonia*, built for the Telegraph Construction and Maintenance Co., Limited, sailed May 8 from England for Vancouver, carrying the cable to be laid in the Pacific from that port to New Zealand.

NEWS OF THE AMERICAN RUBBER TRADE.

THE SAFETY INSULATED WIRE AND CABLE CO.

A T a meeting of the directors held on May 1, the following officers were elected for the ensuing year: Benjamin M. Whitlock, president; Ira W. Henry and Le Roy Clark, Jr., vice presidents; Herbert T. Richards, secretary; Edwin Epstein, treasurer. A mortgage covering the plant of the Insulated Safety Wire and Cable Co., at Bayonne, New Jersey, and in favor of the Knickerbocker Trust Co. (New York), was filed in the office of the county register at Jersey City on May 5. The amount is \$1,250,000, and the object is to secure the recent issue of bonds in connection with the reorganization of the company.

GENERAL ELECTRIC CO.'S CABLE PLANT.

THE General Electric Cable Co. (Schenectady, New York) are erecting a new wire and cable plant, to have an area of 180,000 square feet, and a capacity of about double their present plant in this department. The buildings have been so designed that they can be extended, if this should be found necessary in future. The new plant includes a main building of slow burning mill construction, three stories high, 467×90 feet, for use in the manufacture of cables, and covering wires with insulating material. There is also a one story, steel frame, brick filled, self-sustained building, 369×90 feet, for covering cables with compound and lead jacket. There will be several small auxiliary buildings for the manufacture of inflammable compounds and for other work not desirable to be done in the main building. The machinery will all be electrically driven, and it is the company's intention that the plant shall be thoroughly up-to-date and, as far as possible, a model plant.

COMMERCIAL PACIFIC CABLE CO.

THIS company, on May 10, filed with the secretary of state of New York, a certificate of increase of its capital stock from \$3,000,000 to \$12,000,000. The company was incorporated September 1, 1901, with \$100,000 capital, which was increased soon to \$3,000,000, at which time a contract was awarded for a cable to connect San Francisco and Honolulu. The object of the present increase is to provide capital for the extension of the cable to the Philippine islands.

A HARTFORD RUBBER WORKS RUMOR.

THE Hartford *Post* has been hearing reports to the effect that not only has Colonel Albert A. Pope obtained a controlling interest in the American Bicycle Co., but that the syndicate through which he has been operating may gain possession of the Hartford Rubber Works. It was Colonel Pope's policy, while manufacturing the "Columbia" bicycles, to produce all the details of the wheels under one management, and it would not be surprising if, upon again becoming the controlling factor in a manufacturing enterprise, he should wish to resume this policy. The Hartford Rubber Works are now owned by the Rubber Goods Manufacturing Co., but that corporation having changed control, it is not impossible that the interests in charge would be willing to dispose of any of its property for which a good offer was made.

OMAHA ROOFING AND SUPPLY CO.

THIS company has recently been organized to deal in rubber belting and other supply lines, and also to act as distributing agents for the Carey roofing, manufactured by the Philip Carey Manufacturing Co. (Lockland, Ohio). The officers are: L. T. Sunderland, president; C. G. Crombie, vice president; R. E.

Sunderland, secretary; J. A. Sunderland, treasurer. Mr. Crombie was for many years with the W. S. Nott Co., of Minneapolis, and the other members of the firm are all well known in Omaha. Their office and salesrooms are at No. 1208 Farnham street.

MANHATTAN RUBBER MANUFACTURING CO.'S ANNUAL.

THE annual meeting of the Manhattan Rubber Manufacturing Co. (New York) was held on May 6, the following officers being reelected:

President—FRANK CAZENOVE JONES.
Vice President—ARTHUR F. TOWNSEND.
Treasurer—ELLIOT M. HENDERSON.
Secretary—J. M. FERRIS.

After the meeting the company gave a dinner at the New York Athletic Club, there being present some thirty gentlemen. Prominent among the guests were E. B. Townsend of Boston; A. H. Hardy and John H. Lewis, of South Norwalk, Conn.; W. B. Richards and James Harold Warner, of New York; Alexander Henderson and W. F. Gaston, of Passaic, N. J.; F. B. Henderson, of Chicago; and Richard Kutzleb, of Baltimore. The spread was an old fashioned English dinner, the enormous haunch of roast beef being brought in and special cuts apportioned on choice. The shad was also served on individual planks for each diner. The table was beautifully decorated with flowers, a minstrel troop enlivened the occasion with songs and recitations, and there were speeches, stories, and a good time generally.

BOSTON RUBBER SHOE CO.

THE annual statement of the condition of this company last filed with the Massachusetts commissioner of corporations bears date May 5, 1902. The details are given below, compared with the figures for the two years preceding:

	ASSETS.		
	1902.	1901.	1900.
Real estate and machinery....	\$ 1,123,078	\$ 1,096,725	\$ 1,104,525
Cash and debts receivable....	1,935,210	1,741,308	1,504,863
* Contract with U. S. Rubber Co.....	4,800,000	4,800,000	5,000,000
Stock in process of manufacture	2,959,537	3,200,131	3,667,644
Miscellaneous.....	18,556	84,512	15,000
Total.....	\$10,836,381	\$10,922,476	\$11,292,032
	LIABILITIES.		
	1902.	1901.	1900.
Capital stock.....	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Balance, profit and loss	1,030,381	982,324	1,193,730
Debenture bonds.....	4,800,000	4,800,000	5,000,000
Undivided surplus.....	.....	140,152	99,302
Total	\$10,836,381	\$10,922,476	\$11,292,032

[*To pay principal and interest of debenture bonds as they may mature or be drawn.]

The shares are held as follows: Erskine F. Bickford, 275; Mrs. J. L. Bickford, 100; Mrs. E. M. Chick, 4663; Elisha S. Converse, 25,740; Mrs. M. D. Converse, 500; Harry E. Converse, 1000; Costello C. Converse, 500; Samuel P. Colt, 200; E. L. Corning, 2500; Lester Leland, 60; Mrs. F. E. Leland, 500; Industrial Trust Co., 8400; total, 50,000.

HARDWARE COMBINE DOUBTFUL.

IT now appears doubtful whether the plan for a combination in the hardware jobbing trade, to which reference was made in the last INDIA RUBBER WORLD, will be carried out, at least for the present. The plan involved the consolidation of over fifty

firms, under the name of the National Hardware and Metal Co. The news has come from several cities of dissatisfaction, on the part of leading houses which had been named in connection with the movement, with the terms offered, and it is definitely announced that these firms will not be included. The effect of their action has been to delay the organization of the new company, and doubts are expressed whether any combination will take place.

CONSOLIDATED RUBBER TIRE CO.

At the annual meeting of the shareholders, at the office of the corporation in New Jersey, on May 5, the number of directors was reduced from eleven to seven. The following board was elected: Isaac L. Rice, Emerson McMillin, Martin Maloney, Samuel W. Ehrich, Stephen Peabody, Alfred R. Pick, and Frederick A. Seaman. Later the following officers were elected:

President—ISAAC L. RICE.

Vice President—SAMUEL W. EHRLICH.

Second Vice President—VAN H. CARTMELL.

Secretary and Treasurer—FREDERICK A. SEAMAN.

Edwin S. Kelly, a former member of the board and general manager of the company, had previously retired. On May 5 the company's 4 per cent. debentures were quoted at 27. On May 7, on sales aggregating \$30,000, the price on the "curb market" fell to 16. The decline was attributed to reports of an unfavorable court decision respecting the principal patent held by the company.

OTTO G. MAYER & CO. (NEW YORK)—IN LIQUIDATION.

A MEETING of the creditors of Otto G. Mayer & Co., shipping and commission merchants, No. 44 Cedar street, New York, was held May 14 at the office of Macgrane Cox, referee in bankruptcy, at No. 63 Wall street, and W. A. De Long, deputy water commissioner, was elected trustee. Mr. De Long has been liquidating the business for some time past, and has about \$148,000 in his hands which has been realized from the assets. The schedules show liabilities \$643,021 and nominal assets \$439,915.

REMOVAL OF THE TRENTON COMPANY'S CHICAGO BRANCH.

THE large and increasing business of the Trenton Rubber Manufacturing Co. at Chicago, has made it necessary for them to seek larger quarters in that city. They have just leased the large store and basement at No. 20 South Canal street, opposite their old location. Their new store is 150x30 feet, and is being fitted up equal to any rubber warehouse in the West. F. B. McIlroy is the western manager, and has been very successful in marketing Trenton goods throughout the West and in Mexico.

A RUBBER SHOE DECISION IN CANADA.

AN important and sweeping decision was handed down at Ottawa on May 15, by the supreme court of Canada in the case of The Boston Rubber Shoe Co. v. The Boston Rubber Co. of Montreal, Limited. It will be remembered that in 1896 Charles L. Higgins, of Montreal, purchased the engraved rolls, calendars, etc., formerly used at Franklin, Massachusetts, by the Boston Rubber Co. He and others, after that purchase, became incorporated under the laws of the Dominion under the name of the Boston Rubber Co. of Montreal, Limited, erected a factory at St. Jerome and began to market footwear stamped with their name. The Boston Rubber Shoe Co., through their counsel, Henry W. Williams, Esq., of Boston, and R. V. Sinclair, Esq., of Ottawa, entered a suit in the exchequer court, the opposing counsel being McGoun & England, of Montreal. In this suit they were defeated, but on appealing to the supreme court they scored a most complete victory. The de-

fendants are now forever enjoined from the use of the word "Boston" on rubber footwear of any description, and are assessed the costs of the suit. No damages were granted, because the plaintiffs acknowledged that their Canadian business was not very large. The specific reason was, indeed, not for the collection of damages, but to guard against the future use of the name, in the event that tariff revision should make it possible for Canadian manufacturers to market rubber footwear in the United States.

VISIT TO A RUBBER SHOE FACTORY.

THE A. H. Berry Shoe Co. (Portland, Maine) made up a party of sixteen and visited Factory No. 2 of the Boston Rubber Shoe Co., on May 23. They were met at Boston by Messrs. F. T. Ryder, A. F. Solberry, W. J. Wilson, and William Palmer, who escorted them to the "Fells," where they were taken in charge by Col. Frank Locke and Mr. William E. Piper, the superintendent and assistant superintendent, respectively, and shown all over the great factory. A lunch was then served in the Converse "Bungalow," and later Mr. E. S. Converse drove up, took Mr. Berry into his carriage, and treated him to a drive through the parks.

NEW YORK STOCK EXCHANGE QUOTATIONS. UNITED States Rubber Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 26	540	18 $\frac{1}{4}$	17 $\frac{7}{8}$	420	60	59
Week ending May 3	1,400	18	16 $\frac{3}{8}$	725	60	58 $\frac{3}{4}$
Week ending May 10	710	16 $\frac{1}{2}$	16 $\frac{1}{2}$	700	59 $\frac{1}{2}$	58
Week ending May 17	220	16 $\frac{1}{2}$	16 $\frac{1}{2}$	360	59 $\frac{7}{8}$	58
Week ending May 24	2,290	16 $\frac{1}{2}$	14 $\frac{3}{4}$	1,020	57 $\frac{1}{4}$	56 $\frac{1}{2}$

RUBBER Goods Manufacturing Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 26	14,320	25 $\frac{3}{8}$	23 $\frac{1}{2}$	700	72 $\frac{5}{8}$	72
Week ending May 3	1,500	24 $\frac{1}{8}$	22	1,030	72	70 $\frac{1}{4}$
Week ending May 10	2,265	23	20	300	71	70
Week ending May 17	910	21 $\frac{1}{2}$	20	760	69 $\frac{7}{8}$	68
Week ending May 24	1,190	21	19 $\frac{1}{2}$	....	....	....

MORGAN & WRIGHT (CHICAGO).

THE rubber factory of Morgan & Wright opened on May 5 as a thorough "union" shop in all departments, after conferences between representatives of the Federation of Labor and the management of the company. A number of the employés had gone out on strike, owing to questions relating to wages, and 300 men had formed a rubber workers' union. After the decision mentioned above, steps were taken to organize the women employed in the factory into a separate union. Later there was further trouble, growing out of the employment of a number of hands over time. As a result, a new scale of wages has been adopted, providing for an increase of about 7 per cent., a day's work to consist of 10 hours, time and a half to be paid for over time after 6 o'clock, and double time for Sundays and legal holidays.

NEW INCORPORATIONS.

KEYSTONE Pneumatic Horse Collar Co. (Philadelphia), April 30, under New Jersey laws; capital, \$200,000. Incorporators: F. R. Hansell, W. L. Wier, William F. Eidell. Office in New Jersey: No. 419 Market street, Camden. The horse collar in which this company is interested is attached to a rigid rim, which keeps it in shape, and is composed of a leather casing and an inner rubber air chamber. It was first exploited in 1899 by the United States Horse Collar Co. (New York), which went into liquidation on the death of F. R. Brooke, its president and manager. Later the American Pneumatic Horse

Collar Co. was incorporated in New Jersey, to control the patents. The Keystone company, mentioned above, has been organized to work under a license from the American company, in Pennsylvania, Maryland, Delaware, and southern New Jersey.

=Chicago Rubber Shoe Co. (Chicago), under Illinois laws, to deal in rubber goods at wholesale; capital, \$25,000, fully paid. The company will continue the business of E. G. Stearns & Co. Edgar G. Stearns is president and treasurer and George J. Gerok, secretary. The additional directors are Homer E. Sawyer and Eben H. Paine, of New York, and H. G. Armstrong, of Chicago—all connected with the United States Rubber Co.

=The Sectional Rubber Tire Co. (Buffalo, New York), May 17, under New York laws, to manufacture and sell tires, automobiles, and bicycles; capital, \$75,000. Directors: Edward P. Aspinwall, George F. Westcott, F. J. Barron, Mary D. Birdsell, and Robert L. Cox.

TRADE NEWS NOTES.

THE Diamond Rubber Co. (Akron, Ohio), with \$1,500,000 capital, has been licensed as a foreign corporation to transact business in Illinois, in which state they report \$40,000 capital invested.

=The New York Insulated Wire Co. have removed from the offices so long occupied by them, in Cortlandt street, New York, to No. 114 Liberty street.

=Work is reported brisk at the factory of the Hazelton Boiler Co. (Rutherford, New Jersey). Among the orders lately received is one for three boilers, 450 H. P., from the Carlton Paper Mills (Passaic, N. J.), and for an additional 150 H. P. boiler from the Meriden (Conn.) Electric Light Co. When the last named order is filled the Meriden company will have Hazelton boilers aggregating 600 H. P.

=The Calumet Tire Rubber Co. (Chicago) are running their two factories twenty-four hours a day, and are, at least, three weeks behind in their orders. Mr. Raymond B. Price, the factory manager, has returned from his Mexican trip with his health fully established.

=The Chicago branch of the Home Rubber Co. (Trenton, New Jersey), in charge of Mr. H. L. Davis, has been removed from the Western Union building to No. 17 La Salle street, where more storage space is available, with better shipping facilities.

=The Phillips Insulated Wire Co. are about to begin work on another good sized addition to their plant at Darlington, Rhode Island. The plans call for an extension of the main building. A portion of the addition will be used for the shipping department.

=The employés of the Alden Barber Co. (Barberton, Ohio), have organized a brass band. The employés both of The B. F. Goodrich Co. and the Diamond Rubber Co., at Akron, have bands.

=The Goshen Rubber Co. (Goshen, Indiana), have filed a certificate with the secretary of state, of the increase of their capital stock from \$50,000 to \$100,000.

=The Brockton (Mass.) Rubber Scrap Co. state that such orders as may be intended for them should go hereafter to their Boston representative, W. C. Coleman, No. 170 Summer street.

=The report circulated from Mexico, that the Trenton Rubber Manufacturing Co. (Trenton, New Jersey), was planning to build a branch factory in that country, is denied by the president of the company.

=It is rumored that Mr. John J. McGill will shortly sever his connection with the Canadian Rubber Co. of Montreal, of which concern he has been for many years general manager.

=According to *The Bicycling World* the G. & J. Tire Co. (Indianapolis) are preparing to file suits for alleged infringements of their patents, including proceedings against certain importers of automobiles fitted with foreign made detachable tires which are claimed to infringe the G. & J. rights.

=Werner & Pfeiderer (Saginaw, Michigan), manufacturers of rubber mixing machines, advise THE INDIA RUBBER WORLD that Mr. F. Notz has retired from the position of general manager of their works, being succeeded by Mr. Emil Staehle.

=The Massachusetts Chemical Co., who are quite large manufacturers of rubber specialties in the insulating lines, will remove their Boston offices from No. 200 to No. 170 Summer street.

=The International Rubber Manufacturing Co. (New York) are now operating their plant at Nos. 351-353 East Sixty-first street, which is the factory formerly occupied by the Straus Tire and Rubber Co. Edward Loewenthal is general manager, and the company have an office at Nos. 290-291 West street, New York.

=The Colonial Rubber Goods Co., the closing of whose factory at Franklin, Massachusetts, has been mentioned already, have been petitioned into involuntary bankruptcy, at the instance of three creditors having claims of about \$6000.

=The New Orleans Belt and Terminal Co. have put in place, in their grain elevator at Port Chalmette, La., a rubber conveying belt 30 inches wide, 1024 feet long, and weighing 5200 pounds. It will be used to convey grain from the elevator to the ships, a distance of 1000 feet, and will have a capacity of 13,000 bushels per hour. The belt was made by the Peerless Rubber Manufacturing Co. (New York), who are represented in New Orleans by J. H. Menge & Sons, Limited.

=C. M. Henderson & Co. (Chicago), who retired recently from the shoe manufacturing business, are still jobbing rubbers. They moved on May 1 to Nos. 248-250 Market street, where they carry a complete stock of Woonsocket and Wales-Goodyear goods.

=There has been some reorganization of the office force of the Woonsocket Rubber Co. The payroll bookkeepers at the "Alice" and Millville factories have tendered their resignations, to take effect June 1, and the work on the two payrolls will be consolidated, under Henry A. Follett.

=Referring to the recent volcanic eruptions in the West Indies, the Chicago branch of the Home Rubber Co. advertises: "Had Mount Pelee been properly packed with 'N. B. O.' black sheet packing, everything would have been well with Martinique to-day, as it would not have been burned out, nor could it have been blown out."

=Morse & Rogers, shoe jobbers, Nos. 134-140 Duane street, New York, have purchased from the receivers of the Milltown India Rubber Co. the stock of rubbers on hand at the closing of the Milltown factory. The amount involved in the transaction is reported to be \$108,000.

=The Wales-Goodyear Rubber Shoe Co. made a shipment of rubbers from Naugatuck during the month, on one order from the West, which embraced 5867 cases of goods, and filled eight railway cars.

=The Consumers' Rubber Co. (Cleveland, Ohio), in addition to their store at No. 22 South Water street, have rented the building No. 199 Bank street, to provide for the increase of their business. Extensive repairs have been made to both of these properties and long leases signed for them.

=Chicago jobbers of rubber belting and hose are reported to be doing an exceptionally good business, some of them being a month or more behind in their orders. One house is said to have turned down an order for a \$1800 belt. Stocks of garden hose are very low.

=The United States Waste Rubber Co. (No. 487 North Warren avenue, Brockton, Massachusetts) offer for sale pure unvulcanized rubber scrap from cement waste, and also buy rubber scrap and waste, making a specialty of old wringer rolls.

=The Stoughton Rubber Co. (Stoughton, Massachusetts) have reduced the hours of labor from 59 to 56 per week, but without any change in the scale of wages. Under this system the hands will have Saturday afternoons as half holidays until September 15.

=The factory of the Goodyear Rubber Co. (Middletown, Connecticut), which had been shut down two weeks for inventory and repairs, started May 19 with a full force.

=The Rubber Chemical Co., Limited, advise THE INDIA RUBBER WORLD that in order to facilitate the conduct of their commercial and sales business, they have decided to open offices at Birmingham—in Council Chambers, Colmore Row—as being a much more convenient center than Mitcham for supplying their customers throughout the United Kingdom. They have appointed Mr. B. J. Ebsworth manager of the sales department, at the address above given.

=Mr. A. H. Alden, of the New York Commercial Co., sailed for Europe May 24, on the *Campania*. During his absence Mr. Arthur W. Stedman, of Boston, will be found at his office.

=By decree of the supreme court of New York, Job E. Hedges has been appointed temporary receiver of the assets of the Straus Rubber and Tire Co., Nos. 351-353 East Sixty-first street, on the application of a judgment creditors for \$1394. The company was incorporated March 8, 1901, under New York laws, with \$25,000 capital.

=The Philadelphia Rubber Works appealed from an assessment for a mercantile license as a dealer in that city, on the ground that they had no store or warehouse there, other than their manufacturing plant, and the protest was sustained in the courts.

=The Yatman Rubber Co. have moved their factory from Newark to No. 608 Passaic avenue, Harrison, N. J. The new factory buildings afford them more room and better facilities for the prosecution of their growing business in the manufacture of stationers' sundries and mold work.

=Negotiations have been in progress for the transfer of the rubber shoe plant of the Meyer Rubber Co. (Milltown, New Jersey) to the International Automobile and Vehicle Tire Co., and it is reported that the same have about been completed.

=Colonel John V. Furey, assistant quartermaster general, United States army, at Philadelphia, will open bids on June 6 for a supply of rubber ponchos.

PERSONAL MENTION.

At the annual election of officers of The L. Candee & Co. (New Haven, Connecticut), on May 23, Mr. Henry L. Hotchkiss was reelected president. This will make his thirtieth year of continuous service.

=Early in the month the Hon. E. S. Converse returned to his home at Malden, Massachusetts, his health having been improved by his stay at Lakewood, New Jersey.

=Mr. Charles B. Allen, of the Boston office of the United States Rubber Co., who recently seriously sprained an ankle in Chicago, has been able to resume attention to business.

=Mr. F. Copeman, of the firm of Maclaren & Sons, proprietors of *The India-Rubber Journal*, of London, was a recent visitor to the United States, and favored the offices of THE INDIA RUBBER WORLD with a call.

=Messrs. Frank da Costa and N. H. Witt, of the rubber trade in Pará and Manáos, respectively, were in New York during the past month. Each of them proceeded from here to England.

=Mr. Edwin S. Kelly, lately general manager of the Consolidated Rubber Tire Co., some time ago became the owner of the estate known as "Whitehall," at Yellow Springs, near Springfield, Ohio—which has been an ideal country gentleman's home for more than a half century. It embraces a spacious mansion in the Colonial style of architecture, surrounded by 1100 acres of park and meadow, woods and fields. Modern improvements in the way of buildings, drainage, etc., have made it a model establishment for Mr. Kelly's purpose—the breeding of shorthorns and thoroughbred horses, sheep and hogs. On May 20 was held the first annual sale of Scotch bred shorthorns from the Whitehall herd.

OBITUARY.

THE news will be learned with much regret of the death of Mrs. William H. Acken, which occurred May 3, at their residence, No. 29 West Eighty-second street, New York. Funeral services were held at the residence on May 6, and the interment was at Kensico, New York. The floral offerings were many and elaborate, including a large wreath from the store and offices of the New York Rubber Co., of which Mr. Acken is president. Mrs. Acken was Mary S. Letson, born August 15, 1836, the daughter of the late Johnson Letson, of New Brunswick, New Jersey, one of the founders and for many years president of the New Brunswick Rubber Co.

=Frank Plant died May 9, at Los Angeles, California, where he had gone to recover his health. He was born in England in 1840, and in 1867, after living in the United States for a year, he went to Chicago with the Goodyear Rubber Co. After traveling for them several years, he went to San Francisco for the Boston Rubber Co. Since 1894 he had been associated with his son, Frank W. Plant, in the Plant Rubber Co. of Minneapolis, Minnesota, of which company his son is now president and manager.

THE TRADE IN RUBBER SCRAP.

W. C. COLEMAN, of Boston, reports [May 26]: "There has been a good demand for all grades of rubber scrap during the past month. Especially have the reclaimers been active, and in consequence old rubber boots and shoes, both foreign and domestic, have found ready sale at dealers' asking price. I reported on April 29 that the market seemed to be gaining strength. This was about the time of the beginning of the present bull movement, and those who claim that the price of old rubber is governed to a certain extent by the advance and decline in the price of crude, have to fall back to that old saying, 'Exception proves the rule.' I myself think that crude and scrap have no bearing on each other, as they are governed by entirely different conditions. It is very difficult to look a great way ahead and prophesy with any degree of certainty as to whether the 'bulls' and the 'bears'—the dealers being the former and the manufacturers the latter—will be successful in their game. The demand at present is caused by the lack of any ready foreigners. Authentically I can state that there are in the neighborhood of from 4000 to 5000 tons of old rubber boots and shoes, either on the water or about to leave Europe for American ports. The majority of these are due to arrive by June 10, which will greatly relieve the situation; in fact the knowledge of this stock coming has had its effect, and shoes are fully $\frac{1}{8}$ to $\frac{1}{4}$ of a cent per pound less than they were a week ago. Unless one of the large reclaimers goes into the market I think that the price will decline to the neighborhood of 7½ cents or thereabouts during June. Hard rubber scrap is another article that is having a very large call just at present. White and solid black, free of fiber, and in fact all lines except bicycle pneumatic tires are moving freely."

THE BELGIAN CIE. DU LOMAMI.

ABOUT 1200 miles up the Congo river the Lomami, one of its largest tributaries, enters from the south. The population along the Lomami is very dense, but the stream is so far inland—almost in the heart of the continent—that until recently no attempts were made to establish trade relations with the natives. July 5, 1898, the Compagnie du Lomami, with 3,000,000 francs capital, was formed in Brussels, with the aid of a prominent financial group, to establish trading stations, and exchange European goods for rubber and ivory. Six such stations have been built: (1) At Ilambi, the company's chief post, where a dock has been built, and steamers can be re-

paired: (2) Yankwamu; (3) Yahisuli; (4) Yanga; (5) on the Lombo, a tributary of the Lomami—to which point steamers can ascend from the Congo; and (6) Bena-Kamba. Throughout this region rubber vines abound, but before the advent of the Europeans the natives had never gathered any rubber. The natives were at first hostile, and the population of some villages fled at the approach of the whites, but they have begun already to gather rubber in good quantities and are anxious to obtain European wares. The profits of the Cie. du Lomami for the first year amounted to 130,605.88 francs and for the second year—up to June 30, 1900—to 152,558.14 francs. THE INDIA RUBBER WORLD reported last year the arrival at Antwerp of 92 tons of rubber consigned by this company.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market has been without special feature during the month, manufacturers continuing cautious buyers, but the tone is steady and importers are not disposed to grant concessions. Pará grades, both old and new, have sold in moderate lots at steady figures, and cable news from Pará indicates a firm market. Central American grades continue to be taken up as fast as they come in, at full prices, but Africans are dull. The rubber factories generally have been active. Receipts at Pará for the crop year have exceeded last year's figures to date by 2000 tons or more.

New York quotations on May 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....70	@71	Tongues.....43	@44
Islands, fine, old.....72	@73	Sierra Leone, 1st quality 60	@61
Upriver, fine, new....71	@72	Benguella.42	@43
Upriver, fine, old....73	@74	Cameroon ball.....43	@44
Islands, coarse, new....45	@46	Flake and lumps.....29	@30
Islands, coarse, old...@		Accra flake.....17	@18
Upriver, coarse, new..56	@57	Accra buttons.....43	@44
Upriver, coarse, old...@		Accra strips.....47	@48
Caucho (Peruvian) sheet 47	@48	Lagos buttons.....43	@44
Caucho (Peruvian) ball 53	@54	Lagos strips.....47	@48
CENTRALS.		Madagascar, pinky....@	
Esmeralda, sausage...51	@52	Madagascar, black....@	
Guayaquil, strip.....47	@48	EAST INDIAN.	
Nicaragua, scrap...51	@52	Assam.....52	@53
Mangabeira, sheet....40	@41	Borneo.....30	@40

Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.4	\$300	Upriver, fine.....5	\$050
Islands, coarse2	\$200	Upriver, coarse.....3	\$550

Exchange, 12 3/8d.

Last Manáos advices:

Upriver, fine.....4	\$750	Upriver, coarse.3	\$050
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Exchange, 12 7/16d.

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER.)

	1902.	1901.	1900.
Upriver, fine.....73	@74 1/2	85 @94	98 @102
Upriver, coarse.....59	@60	59 @68	73 @76
Islands, fine71	@73	84 @93	96 1/2 @99
Islands, coarse.....47	@49	52 @60	57 1/2 @60
Cametá, coarse.....53	@53 1/2	54 @63	63 @65

In regard to the financial situation Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us:

"There has been but little change in the situation during May from that prevailing in April, the demand for paper having been mostly from out-of-town banks, with rates ruling firm at 5 1/2 to 6 per cent. for the better class of paper, that not so well known being largely neglected. At the end of the month rates are easing, and a better demand exists.

Para Rubber Statistics (Excluding Caucho).

NEW YORK.		PARÁ.		ENGLAND.	
	Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.
Stocks, March 31..... tons	*498	7 =	*505	929	640
Arrivals, April.....	1110	373 =	1483	2141	861
Aggregating.....	1608	380 =	1988	3070	1501
Deliveries, April.....	1132	364 =	1496	2076	651
Stocks, April 30.....	476	16 =	492	994	850

	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, March 31....	560	485	1030	1825	1346	1355
Arrivals, April.....	2655	1980	1600	2145	904	1140
Aggregating.....	3215	2465	2630	3970	2250	2495
Deliveries, April....	975	2205	1840	3800	825	625
Stocks, April 30..	2240	170	790	170	1425	1870

	1902.	1901.	1900.
World's supply, April 30.....	4,196	3,885	4,392
Pará receipts, July 1 to April 30.....	23,599	21,746	23,450
Pará receipts of Caucho, same dates.....	2,736	1,604	
Afloat from Pará to United States, April 30.	674	861	333
Afloat from Pará to Europe, April 30.....	620	435	549

[* Corrected figures.]

Balata Exports Through Ciudad Bolívar, 1901.

EXPORTERS.	Kilos.	EXPORTERS.	Kilos.
Blohm & Co.....	315,776	B. Tomasi....	3,033
Dalton & Co.....	220,458	A. Mattei.....	2,780
Pietrantonio Bros.....	164,896	J. Acquatella.....	1,820
Pietrantonio & Co.....	125,584	J. Frustuck.....	1,338
Sprick, Luis & Co.....	118,024	J. D. Figarella....	1,000
M. Palazzi.....	82,084	Guillermo Montes....	962
Wenzel & Co.	79,487	D. Ma Batistini.....	600
J. Herbert.....	10,054	A. Batistini.....	468
Montes & Mönch.....	9,828		
H. Hahn.....	5,331	Total.....	1,143,023

Exports, 1900.....	1,218,767 kilos.	Value, 4,881,983 bolivars.
Exports, 1901.....	1,143,023 kilos.	Value, 4,205,961 bolivars.

[One Bolivar equals 19.3 cents gold.]

EXPORTS through Ciudad Bolívar, by steamer *Bolívar*, March 11:

Dalton & Co., for Southampton.....	Kilos 29,125
Pietrantonio Bros., for Hamburg.....	" 9,695
Blohm & Co., for Havre.....	" 12,617
Pietrantonio & Co., for Hamburg.....	" 1,546
Sprick, Luis & Co., for Hamburg.....	" 4,435
Wenzel & Co., for Hamburg.....	" 6,248
Palazzi Bros., for Hamburg.....	" 1,306

LONDON imports of Balata, week ending May 1: 1050 bales.

" " May 8: 657 packages.

The Lagos Rubber Output.

THE INDIA RUBBER WORLD has obtained, through the courtesy of the customs officials at Lagos, West Africa, returns bringing up the record of the rubber output from that colony to the end of 1901, with the following result:

	1897	1898	1899	1900	1901
Pounds.....	4,458,327	3,778,266	1,993,525	596,332	402,655
Value.....	£253,155	£255,410	£160,315	£48,239	£33,490

Manaos Rubber Arrivals from Amazonas State.

FROM RIVERS.	January.	February.	March.	Total.
Purús..... kilos	1,886,449	1,417,952	1,120,436	4,424,837
Jurua.....	869,670	320,103	644,975	1,840,748
Solimões.....	221,778	156,741	350,927	729,446
Madeira.....	254,346	418,809	337,327	1,010,482
Others.....	102,271	75,575	61,444	239,290
Total.....	3,334,514	2,375,180	2,515,099	8,244,803
Total, First quarter 1901.....				6,991,286
Total, First quarter 1900.....				7,799,985

[These figures embrace Cauchó.]

Bordeaux:

ARRIVALS APRIL 1 TO MAY 15.

Grand Bassam..... kilos	7,300
Soudan.....	47,500
Conakry.....	32,000
Cassamance.....	41,000
	127,800

STOCKS, MAY 15.

Soudan..... kilos	10,000
Cassamance.....	8,000
Java.....	5,000
Mexican.....	5,000
New Caledonia.....	1,400
	29,400

PRICES [FRANCS PER KILOGRAM]

Soudan sorts:	Cassamance:	
Twists, fine.....	A. P.....	6.80
Do good.....	A.....	5.50
Do ordinary.....	A. M.....	4.50
Niggers, ordinary.....	B.....	3.60
Do earthy.....	Grand Bassam:	
Conakry:	Lump.....	3.85@4.10
Niggers, fine.....	Cakes.....	5. @ 5.10
Do good.....	Niggers.....	5.50@5.75
Do ordinary.....		P. CHAUMEL.

Antwerp.

RUBBER STATISTICS FOR APRIL.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Mar. 31..... kilos	841,678	843,834	735,060	253,560	178,564
Arrivals April.....	307,834	613,368	507,911	447,919	173,757
Congo sorts.....	261,739	548,563	423,274	402,319	133,575
Other sorts.....	46,095	64,805	84,637	45,600	40,182
Aggregating.....	1,149,512	1,457,202	1,242,974	701,488	352,321
Sales in April.....	648,848	643,384	421,151	180,185	166,075
Stocks, April 30.....	500,664	813,818	821,820	521,303	186,246
Arrivals since Jan. 1.....	1,809,323	2,186,678	2,284,225	1,209,864	661,601
Congo sorts.....	1,698,426	1,951,856	1,899,470	1,049,552	567,930
Other sorts.....	110,897	234,822	384,755	160,312	93,671
Sales since Jan. 1.....	1,723,368	1,986,899	1,754,396	951,901	560,818

ARRIVALS AT ANTWERP.

APRIL 30.—By the *Stanleyville*, from the Congo:

W. Mallinckrodt & Co..... (Alimaïenne) kilos	4,375
Ch. Dethier..... (La Haute Sangha)	2,600
Ch. Dethier..... (Société Belgika)	21,000
Société Coloniale Anversoise..... (Cie. de Lomami)	5,100
Société Coloniale Anversoise..... (Cie. des Mag. Generaux)	4,800
L. & W. Van de Velde..... (Comptoirs Congolais Velde)	8,500
Trafic Congolais.....	4,100
M. S. Cois..... (Centrale Africaine)	3,000
Société A B I R.....	3,900
Comptoir Commercial Congolais.....	38,900
Bunge & Co..... (Société Générale Africaine)	75,100
Bunge & Co..... (Société Anversoise)	12,200

Bunge & Co..... (Société Isanghi)	3,400
Bunge & Co..... (Comité Spécial Katanga)	13,200
Bunge & Co..... (Plantations Lacourt)	7,000
Société Coloniale Anversoise..... (Belge du Haut Congo)	40,000
Société Coloniale Anversoise..... (Sud Kamerun)	3,500
Société Coloniale Anversoise..... (La Djuma)	25,000
	275,075

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the past week very little change has taken place in the Hamburg market, and the general quiet, for which, principally, the coming holidays were responsible, has not been disturbed. The sales remained within small quantities, and if prices for current sorts could be firmly maintained, it was owing to the fact that absolutely no excess of stock is on hand, and offers are very limited. The prices remained without change. Late quotations have been—in marks per kilogram:

Pará fine, hard cure.....	7.05	Congo Thimbles, fine black.....	4.80
Pará entrefine.....	6.80	Batanga ball.....	4.05
Bolivian fine.....	7.05	Bissao ball, fine.....	4.
Mollendo fine, old.....	7.	Bissao ball, good.....	3.50
Mozambique ball, red.....	6.20	Ecuador scrap.....	5.40
Mozambique ball, red and whitish.....	6.	Colombian scrap.....	5.25
Mozambique ball, black.....	5.60	Mangabeira, fine.....	4.80
Massai niggers, fine red.....	5.80	Mangabeira, good.....	4.50
Adeli fine, red.....	6.20	Bahia.....	3.30

Hamburg, May 13, 1902.

London.

EDWARD TILL & CO., under date of May 1, report stocks:

	1902.	1901.	1900.
Pará sorts..... tons	—	—	—
Borneo.....	126	172	128
Assam and Rangoon.....	35	38	21
Other sorts.....	458	631	458
Total.....	619	841	605
LIVERPOOL { Pará.....	2245	1440	1880
Other sorts.....	924	1316	1467
Total, United Kingdom.....	3788	3597	3952
Total, April 1.....	3326	3522	3104
Total, March 1.....	3078	2989	1917
Total, February 1.....	2674	3129	1848
Total, January 1.....	2794	2901	1855

PRICES PAID DURING APRIL.

	1902.	1901.	1900.
Pará fine, hard.....	3/0 @ 3/1½	3/7 @ 3/11	4/1¼ @ 4/3½
Pará fine, soft.....	3/0½ @ 3/1½	2/6½ @ 2/9	3/1
Negroheads, scrappy.....	2/6 @ 2/6½	2/1 @ 2/3½	2/4½ @ 2/5
Do Islands.....	2/0	No sales.	4/3
Bolivian.....	3/2		

LEWIS & PEAT report [May 16]:

Pará—The market continues very dull and business difficult. A fair quantity of hard cure has changed hands on the spot at 3s. 1d. for fine and at 2s. 11d. for entrefine, but there are reports of sales at 3s. ½d. to 3s. ¾d. since. For delivery sales have been made at 3s. 1d. for June, 3s. 1½d. for July, and 3s. 1¾d. for August, but closing quotations are ¼d. less, but few sellers. Scrappy negroheads dull at 2s. 5d. to 2s. 5½d. and no Islands offering. Cametá 2s. 3d. sellers.

Peruvian ball very firm, and the sales amount to 60 or 70 tons at 2s. 4½d. to 2s. 5d. for fair to good. Slab neglected at 3s. ½d., and no business in fine reported. Small sales of Mollendo at 3s. for fine and at 2s. 10d. for entrefine. Medium sorts very quiet. No auctions this week.

Liverpool.

WILLIAM WRIGHT & Co. report [May 1]: "*Fine Pará*—Prices during the early part of the month declined, partly owing to an incorrect estimate of crop receipts by one of the large operators; toward the close there is a little more firmness, but the demand is dull. If next month's [May] receipts turn out as anticipated we may see a further advance in prices. There has been a fair business both on spot and for delivery at current rates, closing prices being 3s. 2d. spot and near; but as

regards forward, owing to the uncertainty of supplies, sellers are unwilling to offer. Some small lots are offered speculatively now and then just to test the market. *African* in steady demand at current rates."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

May 8.—By the steamer *Basil*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
New York Commercial Co.	285,600	47,700	57,100	20,400=	410,800
Reimers & Co.	219,600	42,900	66,000	41,400=	369,900
A. T. Morse & Co.	110,600	23,100	83,400	7,600=	224,700
United States Rubber Co.	113,100	19,400	23,200	51,200=	206,900
Boston Rubber Shoe Co.	33,500	6,400	6,200	25,400=	71,500
Edmund Reeks & Co.	1,900	900	200	39,100=	42,100
Goodyear Rubber Co.	12,000	.....	8,800	.....=	20,800

Total 776,300 140,400 244,900 185,100= 1,346,700

May 13.—By the steamer *Fluminen*, from Pará:

New York Commercial Co.	67,700	15,200	45,900	1,500=	130,300
Reimers & Co.	13,200	2,500	33,300	1,300=	50,300
A. T. Morse & Co.	2,200	2,600	24,000	.....=	28,800
Boston Rubber Shoe Co.	24,000	2,300	1,100	1,000=	28,700

Total 107,100 22,600 104,600 3,800= 238,100

May 24.—By the steamer *Hubert*, from Pará and Manáos:

New York Commercial Co.	193,700	49,500	91,300	28,800=	363,300
Reimers & Co.	147,100	29,600	67,700	47,600=	292,000
A. T. Morse & Co.	96,000	13,500	38,500	3,100=	151,100
United States Rubber Co.	63,200	6,400	8,400	22,300=	100,300
Boston Rubber Shoe Co.	31,000	3,400	4,200	44,300=	83,500
Ed. Reeks & Co.	17,700	2,700	700	.....=	21,100
G. Amsinck & Co.	.....	.....	.....	1,700=	1,700

Total 549,300 105,100 210,800 147,800= 1,013,000

[NOTE.—The Steamer *Benedict* from Pará, is due at New York June 3, with 175 tons of Rubber and 100 tons Caucho.]

PARA RUBBER VIA EUROPE.

MAY 3.—By the *Lucania*=Liverpool:
Reimers & Co. (Coarse)..... 11,500

FROM THE ORINOCO.

MAY 15.—By the *Prins Fredrick Hendrik*=Bolívar:
Thebaud Brothers (Fine)..... 10,700
Thebaud Brothers (Medium)..... 700
Thebaud Brothers (Coarse)..... 4,000 15,400

OTHER ARRIVALS AT NEW YORK

CENTRALS.

APRIL 21.—By the *Baron*=Bahia:
J. H. Rossbach & Bros..... 8,700
Booth & Co..... 1,600 10,300

APRIL 28.—By the *Umbria*=Liverpool:
Reimers & Co..... 10,300

APRIL 28.—By the *Proteus*=New Orleans:
A. T. Morse & Co..... 2,000
Eggers & Heinlele..... 1,000 3,000

APRIL 26.—By the *Penosylvania R. R.*=New Orleans:
G. Amsinck & Co..... 3,500
Silva Bussenis & Co..... 2,000
W. Loaza & Co..... 1,000
L. N. Chemedillo & Co..... 1,200 7,700

APRIL 29.—By the *Alleghany*=Savanilla:
Mecke & Co..... 2,000
L. Brandon & Bros..... 1,500
Kunhardt & Co..... 1,500
G. Amsinck & Co..... 1,000
Punderford & Co..... 700
Suzotte & Whitney..... 300
Jimenez & Escobar..... 300
Lawrence Johnson & Co..... 900
R. Fabien & Co..... 400 8,600

APRIL 30.—By the *Moltke*=Hamburg:
J. H. Rossbach & Bros..... 10,000
A. T. Morse & Co..... 1,100 11,100

APRIL 30.—By the *Eldorado*=New Orleans:
A. T. Morse & Co..... 6,000
A. N. Rotholz..... 1,500
Eggers & Heinlele..... 300 7,800

MAY 5.—By the *Havana*=Mexico:
Thebaud Brothers..... 3,000
F. Probst & Co..... 1,500
Graham Hineley & Co..... 1,000
H. Marquardt & Co..... 600 6,100

MAY 5.—By the *Comus*=New Orleans:
A. T. Morse & Co..... 5,000
A. N. Rotholz..... 2,000
T. N. Morgan..... 1,000 8,000

MAY 7.—By the *Advance*=Colon:
Isaac Brandon & Bros..... 3,600
R. Fabien & Co..... 600 4,200

MAY 7.—By the *Alba*=New Orleans:
A. T. Morse & Co..... 3,300

MAY 6.—By the *Alene*=Greytown:
G. Amsinck & Co..... 6,000
E. B. Strout..... 3,500
Livingstone & Co..... 2,000
Lawrence Johnson & Co..... 2,000
Jimenez & Escobar..... 500
Saniper & Co..... 500
J. A. Pauli & Co..... 300
Kunhardt & Co..... 200 15,000

CENTRALS—Continued.

MAY 9.—By the *Wordsworth*=Bahia:
J. H. Rossbach & Bros..... 18,500

MAY 12.—By the *Esperanza*=Mexico:
E. Stelger & Co..... 2,000
Thebaud Brothers..... 2,000
Graham Hineley & Co..... 800
H. Marquardt & Co..... 2,500
American Trading Co..... 400 7,700

MAY 12.—By the *Altai*=Savanilla:
Kunhardt & Co..... 2,500
Jimenez & Escobar..... 300
D. A. DeLima & Co..... 3,500
L. Johnson & Co..... 1,000 7,300

MAY 12.—By the *Louisiana*=New Orleans:
A. T. Morse & Co..... 1,000
J. A. Medina..... 700 1,700

MAY 13.—By the *Alliance*=Colon:
G. Amsinck & Co..... 6,200
Hirzel, Feltman & Co..... 6,000
American Trading Co..... 3,600
E. B. Strout..... 1,600
Harburger & Stack..... 1,500
Kunhardt & Co..... 1,300
Dumarest & Co..... 1,300
L. N. Chemedillo & Co..... 1,000
W. R. Grace & Co..... 600
A. Santos & Co..... 600
Mecke & Co..... 300
Thebaud Brothers..... 800 24,800

MAY 19.—By the *Proteus*=New Orleans:
A. T. Morse & Co..... 1,000
For Europe..... 1,000 2,000

MAY 20.—By the *Athos*=Greytown:
E. B. Strout..... 4,000
G. Amsinck & Co..... 2,000
A. D. Straus & Co..... 500
D. A. DeLima & Co..... 4,500
Kunhardt & Co..... 200 11,200

MAY 20.—By the *El Rio*=New Orleans:
A. T. Morse & Co..... 3,500

MAY 20.—By the *Finance*=Colon:
R. Fabien & Co..... 5,500
Hirzel, Feltman & Co..... 2,100
H. Marquardt & Co..... 2,000
W. Loaza & Co..... 600
E. N. Tibbals & Co..... 400
For Europe..... 1,000 11,600

MAY 20.—By the *Tennison*=Bahia:
J. H. Rossbach & Bros..... 37,500
Booth & Co..... 500 38,000

MAY 21.—By the *El Dorado*=New Orleans:
A. T. Morse & Co..... 9,000
Rubber & Celluloid Harness Trim-
ming Co..... 2,500
A. N. Rotholz..... 1,500 13,000

AFRICAN.

APRIL 28.—By the *Umbria*=Liverpool:
George A. Alden & Co..... 28,500

APRIL 30.—By the *Georgie*=Liverpool:
Otto Meyer (Boston)..... 29,000

APRIL 30.—By the *Moltke*=Hamburg:
Otto Meyer (Boston)..... 2,500
A. T. Morse & Co..... 2,000 4,500

APRIL 30.—By the *Friesland*=Antwerp:
Reimers & Co..... 115,000

AFRICANS—Continued.

A. T. Morse & Co..... 34,000
Joseph Cantor..... 14,000
For Boston..... 56,000 219,000

MAY 1.—By the *Majestic*=Liverpool:
George A. Alden & Co..... 41,500
Reimers & Co..... 15,500
Joseph Cantor..... 4,500 61,500

MAY 2.—By the *British Princess*=Antwerp:
William Wright & Co..... 6,500
A. T. Morse & Co..... 6,500 13,000

MAY 3.—By the *Lucania*=Liverpool:
Reimers & Co..... 11,500
A. T. Morse & Co..... 3,000
H. A. Gould & Co..... 2,000 16,500

MAY 5.—By the *Celtic*=Liverpool:
George A. Alden & Co..... 67,000
Otto Meyer (Boston)..... 12,000
A. T. Morse & Co..... 11,000 90,000

MAY 5.—By the *Rotterdam*=Rotterdam:
A. T. Morse & Co..... 64,000
Reimers & Co..... 44,000 108,000

MAY 5.—By the *Panama*=Bordeaux:
George A. Alden & Co..... 17,500

MAY 5.—By the *Ethiopia*=Glasgow:
Reimers & Co..... 22,500

MAY 6.—By the *Southwark*=Antwerp:
George A. Alden & Co..... 331,000
Reimers & Co..... 147,000
A. T. Morse & Co..... 6,000
For Boston..... 67,000 551,000

MAY 8.—By the *Patricia*=Hamburg:
Otto Meyer (Boston)..... 44,000
George A. Alden & Co..... 11,500
Frank Greene..... 6,500 62,000

MAY 12.—By the *Vaderland*=Antwerp:
A. T. Morse & Co..... 8,000

MAY 8.—By the *Germania*=Liverpool:
Otto Meyer (Boston)..... 11,500
George A. Alden & Co..... 4,500 16,000

MAY 12.—By the *Saxonia*=Liverpool:
Otto Meyer (Boston)..... 12,000
Reimers & Co..... 7,000
H. A. Gould & Co..... 5,500 24,500

MAY 15.—By the *Teutonic*=Liverpool:
George A. Alden & Co..... 11,500
A. T. Morse & Co..... 6,000 17,500

MAY 16.—By the *Bohemian*=Liverpool:
George A. Alden & Co..... 67,000

MAY 17.—By the *Peninsular*=Lisbon:
Reimers & Co..... 45,000
A. T. Morse & Co..... 22,500 67,500

MAY 19.—By the *Cynric*=Liverpool:
Mark Hydes & Co..... 4,500
Rubber Trading Co..... 2,500
Joseph Cantor..... 1,000 8,000

EAST INDIAN.

MAY 7.—By the *Louther Castle*=Singapore:
William Wright & Co..... 25,500
G. B. Watt..... 22,500
Windmuller & Reolker..... 13,500
Winter & Smith..... 5,500 64,000

EAST INDIANS—Continued.

PONTIANAK.

MAY 7.—By the <i>Lowther Castle</i> =Singapore:	
Reimers & Co.	413,000
George A. Alden & Co.	335,000
Robert Brauss & Co.	160,000
Robinson & Tallman	105,000, 113,000

GUTTA-PERCHA AND BALATA.

POUNDS.

APRIL 30.—By the <i>Manitou</i> =London:	
Spaulding Mfg. Co.	3,500
To order	2,500 6,000
MAY 5.—By the <i>Minnehaha</i> =London:	
Spaulding Manufacturing Co.	4,500
MAY 7.—By the <i>Lowther Castle</i> =Singapore:	
Pierre P. Betts	12,500
MAY 8.—By the <i>Cecile</i> =Liverpool:	
For Boston	60,000
Reimers & Co.	2,500
Robinson & Tallman	2,500 65,000

BALATA.

APRIL 30.—By the <i>Manitou</i> =London:	
Earle Brothers	2,500
MAY 2.—By the <i>Maraval</i> =Trinidad:	
Thebaud Brothers	2,000
G. Amsinck & Co.	1,500
George A. Alden & Co.	1,500 5,000
MAY 5.—By the <i>Minnehaha</i> =London:	
Reimers & Co.	3,500
MAY 12.—By the <i>Grenada</i> =Trinidad:	
George A. Alden & Co.	13,500
G. Amsinck & Co.	2,000 15,000

BALATA—Continued.

MAY 15.—By the <i>Prins Frederik Hendrik</i> =Trinidad:	
Thebaud Brothers	2,500
George A. Alden & Co.	1,500
G. Amsinck & Co.	1,000 5,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	POUNDS.	VALUE.
India-rubber.....	4,989,064	\$2,442,928
Gutta Jelutong (Pontianak) ...	1,498,737	43,978
Total.....	6,487,801	\$2,486,905
Exports:		
India-rubber.....	112,780	\$60,809
Reclaimed rubber.....	117,749	18,985
Rubber Scrap Imported.....	449,366	\$29,591

BOSTON ARRIVALS.

POUNDS.

APRIL 3.—By the <i>Cambrian</i> =Liverpool:	
Robinson & Tallman.—African ...	3,236
APRIL 4.—By the <i>Lancastrian</i> =Liverpool:	
George A. Alden & Co.—African.....	7,096
APRIL 8.—By the <i>Southwark</i> =Antwerp:	
George A. Alden & Co.—African ...	35,200
APRIL 10.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—African.....	9,496
APRIL 14.—By the <i>Sachem</i> =Liverpool:	
George A. Alden & Co.—African. ...	4,485
Reimers & Co.—African	11,303 15,788

APRIL 16.—By the <i>Cestrian</i> =Liverpool:	
George A. Alden & Co.—African.....	23,135
APRIL 16.—By the <i>Nubia</i> =Hamburg:	
Otto Meyer—African.....	2,891
APRIL 17.—By the <i>Anglian</i> =London:	
George A. Alden & Co.—African....	2,361
APRIL 20.—By the <i>Sagamore</i> =Liverpool:	
Reimers & Co.—Caucho	16,000
Reimers & Co.—African.....	8,830
George A. Alden & Co.—Caucho ...	4,200
George A. Alden & Co.—African....	7,005 26,035
APRIL 24.—By the <i>Phyladelphian</i> =Liverpool:	
Reimers & Co.—Caucho	44,046
APRIL 25.—By the <i>Virginian</i> =London:	
Reimers & Co.	23,349
APRIL 28.—By the <i>Michigan</i> =London:	
George A. Alden & Co.—African.....	21,166
APRIL 28.—By the <i>Kansas</i> =Liverpool:	
Samples	27
APRIL 28.—By the <i>Michigan</i> =Liverpool:	
Reimers & Co.—Coarse Para.....	11,494
Reimers & Co.—African	11,000 22,494
Total Imports	216,320
[Value, \$112,286]	
GUTTA-PERCHA.	
APRIL 14.—By the <i>Sachem</i> =Liverpool:	
George A. Alden & Co.	4,527
APRIL 16.—By the <i>Nubia</i> =Hamburg:	
C. H. Arnold & Co.	9,573
APRIL 19.—By the <i>Abessinia</i> =Hamburg:	
C. H. Arnold & Co.	4,126
Total	18,226

APRIL EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.....	73,092	15,698	58,275	640	147,705	88,139	17,506	35,921	600	142,166	289,871
Frank da Costa & Co.....	113,675	21,618	67,225	2,404	204,922	33,998	4,094	58,776	—	96,868	301,790
Adelbert H. Alden.....	220,159	41,524	70,701	1,786	334,170	52,621	9,359	19,756	3,483	82,219	416,389
Kanthack & Co.	—	—	—	—	—	2,516	395	4,094	—	7,005	7,005
Neale & Staats.....	—	—	—	—	—	1,515	170	1,872	23,756	27,313	27,313
Denis Cronan & Co.....	—	—	—	—	—	2,513	322	2,950	—	5,785	5,785
B. A. Antunes & Co....	650	576	3,620	—	4,846	—	—	—	—	—	4,846
R. Suarez.....	—	—	—	—	—	36,619	6,656	9,304	129	52,708	52,708
Direct from Itacoatiara	—	—	—	—	—	3,730	—	1,214	—	4,944	4,944
Direct from Manáos.....	236,934	49,940	70,293	196,378	553,545	383,048	86,093	119,731	278,594	867,466	1,421,011
Total for April.....	644,510	129,356	270,114	201,208	1,245,188	604,699	121,595	253,618	306,562	1,286,474	2,531,662
Total for July-March.....	5,676,018	1,456,391	3,437,926	708,910	11,279,245	7,673,593	1,464,320	2,116,280	1,430,987	12,685,090	23,964,335
TOTAL, CROP YEAR.....	6,320,528	1,585,747	3,708,040	910,118	12,524,433	8,278,202	1,585,915	2,369,898	1,737,549	13,971,564	26,495,997

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1902	4,884,637	448,180	4,436,457	March, 1902.....	4,378,160	1,950,368	2,927,792
January-February	9,621,307	492,495	9,128,812	January-February*.....	9,002,448	5,225,248	3,777,200
Three months, 1902.	14,505,944	940,675	13,565,269	Three months, 1902.	13,880,608	7,175,616	6,704,992
Three months, 1901.....	15,886,510	850,607	15,035,903	Three months, 1901.....	14,823,872	4,727,632	10,096,240
Three months, 1900.....	15,919,121	1,361,421	13,557,700	Three months, 1900.....	16,358,272	6,133,216	10,225,056
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1902	2,341,240	970,860	1,370,380	March, 1902... ..	59,620	220	59,400
January-February	4,695,460	1,711,260	2,984,300	January-February.....	310,640	42,240	268,400
Three months, 1902.	7,036,700	2,682,020	4,354,680	Three months, 1902.....	370,260	42,460	327,800
Three months, 1901.....	6,482,080	1,321,540	5,160,540	Three months, 1901.....	479,160	69,080	410,080
Three months, 1900.....	8,404,440	3,112,120	5,292,320	Three months, 1900.....	407,440	—	407,440

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*Figures in this line corrected since last month.



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THE TRUST TO BLAME.

NOT the "Rubber Trust" this time, but the Cotton Duck Trust, which, according to the statement of many, is directly responsible for the high price of cotton duck. To be sure, experts point out that raw cotton in the South to-day is quoted at 9½ cents, as against 7 cents a few months ago, but that makes no particular difference, as it is easy, natural, and pleasant to blame the "trusts" for all commercial ills. This is due in a measure, perhaps, to the attitudes of the individuals who are called to manage the different departments in these great corporations, for particularly when new there is a lack of individual responsibility and a feeling of enhanced greatness which the public at large, and customers in general, are quick to appreciate and resent. The writer does not charge the very able officers in the cotton duck trust with any such attitude, yet its existence seems to be resented and rumors of new cotton mills are constantly in the air. However wisely and righteously a trust, duck or other, be run, therefore, it can hardly hope for the cordial liking that individual companies enjoy, nor can it fail to put a premium on the building of new mills and the creation of increased competition.

THE STATE OF THE AMERICAN TRADE.

THE growth of the India-rubber industry in the United States, which has been continuous since the first introduction of vulcanization, appears from the latest decennial census—to say nothing of more concrete and ever present indications—to proceed without any sign of abatement. This is not only encouraging to those whose money is invested, and to those who live by working in the rubber factories, but it is of interest in contrast with the lack of similar expansion in this industry in some other countries. In seeking a reason for the more satisfactory condition of the rubber trade on this side of the Atlantic, it is not sufficient to point to the skill and ingenuity manifested in the factories or the enterprise shown in the financial and selling departments, for in regard to these qualities no monopoly is possessed by Americans. The situation which exists is common to the industries of this country, and, instead of being exceptional, the rubber branch and its growth are only typical of general conditions.

In the first place, the United States are a new country, with large areas still sparsely settled, and others as yet not settled at all. There is room, therefore, for a long continued growth of population from abroad, such as has been in progress from the birth of the nation, and an increase in population in itself affords a basis for an expanding trade. Besides, the average buying power of the people as a whole has always been large, as compared with that in some older countries, and tends to increase rather than diminish; the normal condition of the population is that of possessing an income beyond the limits of subsistence, leading to a wide demand for and distribution of innumerable classes of industrial products. Until, therefore, a check occurs to these generally progressive

tendencies, a field will exist at home for an expanding industrial output, not to mention the success which lately has attended the efforts to build up an American export trade.

The use of rubber goods in the United States has become very widespread. Some product or other of the rubber industry is on sale in the stores or shops of the smallest and most remote hamlet, as well as in the largest cities. And the sale of rubber goods in every class increases, in many cases more rapidly than the growth of population. Besides, no important use of rubber has once been begun which has not been continued. The manufacture of rubber footwear was the first branch of the industry to be developed, and probably more rubber boots and shoes—including rubber soled shoes—will be made this year than ever before. Rubber belting and hose came into use later, and these too grow steadily in volume of consumption. Once a consumer of such goods is to remain always a consumer, besides which a demand is constantly arising in new fields. The erection of waterworks in many new towns each year widens the demand for garden and other hose such as is used to advantage only in the vicinity of waterworks. The organization of a fire department in a new town at once calls for more fire hose. The extension of railways and their equipment adds yearly to the demand for air brake hose and other rubber products. In new mines and engineering development air or steam hose for drilling work is required; new electrical installations call for rubber covered wire; the number of rubber tired vehicles increases; and the list might be extended to fill this page. Not only does every existing demand for rubber bid fair to continue, but every new mechanical development seems to call for rubber in some new auxiliary capacity—the result of all of which is the continual establishment of new factories and the expansion of old ones.

No doubt some day the United States may become so thickly peopled that no room will exist for more population. Possibly the means of gaining a livelihood for the average individual will become restricted, and the masses will have less money to spend. And many other things may happen a few centuries hence which would not be favorable to the rubber industry as now conducted. But there is no need for anyone to lie awake nights to predict these things; the rubber manufacturers to-day have enough to do to meet the demand for their products.

SOUTH AFRICA AND TRADE.

THE end of the war in South Africa is welcome news to the whole business world. However devastating war may be, the coming of peace brings an era of new effort, followed often by greater material development than before seemed possible—provided that the country in question possesses sufficient natural resources and advantages. It is of course plain how Great Britain, relieved of the financial drains caused by the war, and the check upon industry caused by the withdrawal of so many workers for military and incident services—and the more cheerful and hopeful temper of the people, now that the war is over—

should experience an improved condition of trade in many lines.

All of this is without reference to British investment interests in South Africa. These, too, have a brighter outlook, now that hostilities have ceased, and a similar condition exists with regard to the investments of other countries—some of them large—in the same region. There is no doubt that the financial depression in Germany, of which so much was heard last year, was accentuated by the falling off of the returns from German money invested in the Boer country.

Every country engaged in the sale of products and commodities in South Africa, of course, has suffered from the reduced demand resulting from the war. Freight rates even in remote channels of commerce have been unfavorably affected by the diversion of British merchant vessels to her transport service. And doubtless in many other ways industrial and commercial interests have suffered in countries which, at first thought, might be supposed to have had no concern in the war that has just terminated. But there is no longer any country—any civilized country, at least—so far isolated from the community of nations not to feel an injury to any other nation or its trade.

Peace, then, means universal benefit, and to the United States not the least of all. While little American capital has been invested in African mines and other recent developments, and while our direct trade with South Africa has not been large, yet the indirect exports thither had become important before the war, and with the return of buying power to that region the United States will stand an even better position than before to compete with Europe in supplying demands there. Nor is the south of Africa—or, for that matter, much more of Africa—always to remain an insignificant part of the commercial map of the world. The country so long under the conservative rule of the Boers has the qualities of soil and climate, to say nothing of natural wealth, that must appeal strongly soon to countless Europeans now crowded for room in their own countries, and who, now that they will be more welcome, will seek the opportunity to go there and found new populous and prosperous communities, under conditions more like those under which some of the great western American states were settled than can now be found anywhere else on the globe.

OBSTACLES TO PROGRESS IN BOLIVIA.

THE late Collis P. Huntington, of New York, when he undertook to establish a transcontinental railway system, began by acquiring a number of short lines, some of them of small or merely local consequence, with the idea of uniting them in one great line. A traveler one day on one of the smallest of these roads, the trains of which stopped on every trip to allow a handful of passengers to regale themselves at the little hostelry of one John Heller, asked a lounging villager for his views of the changed conditions in prospect, the details of which were just getting into print. The villager listened vacantly un-

til mention was made of trains on their way from ocean to ocean not stopping for meals, and then remarked :

"That would be mighty hard on John Heller."

Doubtless this particular Heller long ago retired from business, but many more of his kind remain—not all inn keepers, but all with neighbors incapable of taking a broader view of a projected great development than that it would be "mighty hard on Heller." For example, there are people, and even newspapers and statesmen, in South America to day, talking frantically—talking about war—because Bolivia has entered into a contract with citizens of a foreign country for the development of a broad rich tract of land which, without aid from the outside, would likely remain for another century in as backward a state as has existed since the days of Christopher Columbus.

The Acre and its branches, from all reports, are rich in rubber of the highest quality, for which consumers are ready to pay liberal prices. There are minerals in the same district, for which a market is also ready. Soil and climate are fitted for the local supply of the food products needed by laborers, instead of their being imported, as at present. But none of these resources or advantages can be availed of under existing conditions, and the government of Bolivia has determined, since her own people cannot do more, to let others have a chance, under conditions that will allow all hands to profit.

It will be interesting to see whether the consideration that conditions of modern enterprise in equatorial South America might be hard on the local John Hellers will be potent enough to prevent the carrying out of plans upon which Bolivia ought to be congratulated, instead of being abused for having adopted them.

RIOT HOSE.—This type of hose has not as yet been announced by any rubber manufacturer, but there seems to be, nevertheless, a distinct call for it. It should, preferably, be red; it should be flexible, easy to handle, and its market would be found in anarchistic centers, such as Paterson, Chicago, and wherever riotous strikers are wont to congregate and make mischief. Even ordinary fire hose quelled a very serious riot in Paterson only a few days ago. If, then, riot hose were placed in the hands of the authorities and mill owners, and if to the clear water a little soap were added, our manufacturing centers might soon be cleansed from anarchy and its universal concomitant—dirt.

THE DEFEAT OF THE PACIFIC CABLE BILL in the house of representatives at Washington on June 11 ends all hope of legislation on this subject in the United States in the near future. The failure of the government to take part in providing for cable communication across the Pacific will not prevent such communication from being established, for work is already in progress on a cable to connect San Francisco with Honolulu, to be operated by a company who assert their intention to extend their line to Manila, and that without asking any financial support or special privileges from the government. But this cable is being made in England, whereas any cable built with government aid would be required to be made in the United States, and so large an initial order would lend great encouragement to the building up of the submarine cable industry in this country. There yet remains much work in cable construction, however, to supply the growing demand for tele-

graphic communication all over the world, and it may be that American factories will yet be found in a position to compete for such work, although up to date this industry has not become established in any country without having had the benefit of important orders directly or indirectly supported by government aid.

"THERE IS TOO MUCH MONEY invested near home," is asserted in a rubber planting prospectus lately mailed from Chicago to many clergymen; "the great opportunities are at a distance, not at our doors." This is something which had not occurred to many people, and it may be, after all, that what is ruining the country is not the "trusts," or the professional politicians, or rum, but the fact that people with money to invest don't send it far enough away. But this Chicago economist is ready to remedy all that. Plant rubber in Mexico. It is the surest way on earth to make money. Plant rubber, and you can't help getting rich. "It has been demonstrated by our experience," says the circular sent to the preachers, "that when a young [rubber] tree is fairly started, there is but one way to kill it, and that is to dig up the roots. A rubber tree may be broken off or cut down, and the ground burned over, and another tree will spring up from the roots." The Chicago circular writer probably thought it unnecessary to add that when a rubber tree has matured it can't be prevented from yielding rubber, and it is impossible to keep the rubber from getting to market and selling at high prices. A rubber tree is more persistent than original sin.

A RUBBER PLANTATION COMPANY has been organized in New York city, the capital of which is expected to be subscribed entirely by the teachers in the public schools. It is reasonable to expect, if such profits are realized as the prospectus promises, that the teachers will not long continue in their present positions after their dividends become due.

IN THE SEVEN RUBBER MANUFACTURING STATES for which census bulletins have been issued to date, the value of rubber goods produced in the census year (ending June 30, 1900) amounted to \$87,172,694, not including the output from several factories, the details for which, under the classification adopted in the census office, could not be given in bulletins by states without rendering it possible to identify certain factories. When the whole tabulation has been made, including the returns from a few other states, it seems probable that a total production of at least \$100,000,000 will be shown. The total production by the census of 1890 was only \$42,853,757. In 1890 the total investment of capital in the rubber industry was reported at \$26,392,965, whereas in 1900 the capital so invested in Massachusetts alone amounted to \$26,542,446.

"THE PRICES OF RUBBER GOODS."

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have just read the letter of Mr. J. Bennett Forsyth, general manager of the Boston Belting Co., which appeared in your issue of June 1. I may say that as soon as I read your editorial for May regarding the prices of rubber goods, I immediately had it reprinted on slips and sent to customers. I also thought it advisable to have copies forwarded to other manufacturers, in case your article might have escaped their notice.

I think this will show that, like Mr. Forsyth, I attached value to your article and greatly appreciated it. Yours faithfully,

JOHN COOPER,

London, June, 12, 1902.

Managing Director, The Dermatine Co., Limited.

CENSUS OF THE BICYCLE INDUSTRY.

THE bicycle industry in the United States as it existed in 1900 forms the basis of a separate Bulletin of the census for that year, lately issued as No. 176. The number of bicycle factories in operation during the year ending June 1, 1900, was 312, located as follows:

Maine..... 1	Pennsylvania.....24	Wisconsin.....23
New Hampshire.. 1	Maryland..... 1	Minnesota..... 4
Massachusetts... 25	Kentucky..... 1	Iowa..... 1
Rhode Island 4	Ohio.....34	Nevada..... 1
Connecticut.....24	Michigan.....11	Colorado..... 1
New York.....66	Indiana..... 19	California..... 4
New Jersey..... 7	Illinois..... 60	

The principal details reported regarding these establishments, compared with the corresponding details (for 27 factories) in the census of 1900, were as follows:

	1900.	1890.
Total capital employed	\$29,783,659	\$2,058,072
Salaries officials and clerks.	2,034	128
Salaries paid.	\$ 1,753,235	\$ 123,714
Wage-earners, average number	17,525	1,797
Total wages paid.	\$ 8,189,817	\$ 982,014
Miscellaneous expenses.	\$ 2,252,604	\$ 242,018
Cost of materials used	\$16,792,051	\$ 718,848
Value of products.	\$31,915,908	\$2,568,326

Of the total value of products reported in 1900, the sum of \$9,646,875 applies to other articles than bicycles, including chains, spokes, handle bars, saddles, rims, and the like. Undoubtedly as a result of this large production of bicycle parts a good many bicycles were put together in the establishments classed as "bicycle and tricycle repair shops," of which 6328 are considered in the census, but there is no report of the number of bicycles so produced. At the same time, there were 16 establishments, not included in the number mentioned in the preceding table, which reported bicycles as a by product. The production of bicycles, tricycles, and automobiles, by all the concerns reported on, was as follows:

	Number.	Value.	Av. Value.
Bicycles	1,182,850	\$23,689,437	\$ 20.03
Individual chainless	42,929	\$1,057,329	\$15.59
Individual chain.	1,136,122	21,488,587	18.91
Tandem	3,640	210,569	57.85
Motor.	159	32,950	207.23
Tricycles (mainly toys).	26,110	71,985	2.76
Automobiles	56	66,788	1,085.50

The table does not, of course, relate to any automobiles constructed in other than bicycle factories. The value of custom work and repairing in the bicycle repair shops was \$13,766,033, which, added to the value of products in the bicycle factories, gives a total of \$45,681,941 as the extent of the bicycle industry during the last census year.

* * *

THE manufacture of the large number of bicycles reported for the last census year does not imply that an equal number were sold. The market was even then stocked with wheels of earlier production, and it is quite possible that many wheels made in 1900 still await buyers. It long ago became apparent that the productive capacity of the industry had become too great for the domestic demand, but the hope prevailed for awhile that an export market could be found for the surplus production. The largest export figures, however, measured in values, were attained in 1898, since which there has been a steady decline. Before the close of the census year a crisis existed in the industry which called for a radical reconstruction, leading to the formation of the American Bicycle Co., with \$40,000,000 capital, and the control of 35 bicycle factories, besides shops producing parts. That company has gradually concentrated its facilities, and recently divided its business between two subsidiary corporations, one each for the automobile and the bicycle trade, and confining the work in the latter to seven factories.

It is not probable that there are now thirty factories, all told, large and small, making bicycles in this country. From the best indications observed by THE INDIA RUBBER WORLD the production of bicycles in the United States this year will not exceed 600,000. The policy will be pursued, however, of avoiding overproduction, and doubtless better profits will be realized on the wheels sold. At the same time the manufacture of bicycle tires, while reduced in volume, and confined to fewer factories, appears to be conducted on a more satisfactory basis than at times in the past.

BOLIVIAN SYNDICATE'S PLANS.

ON June 14, Mr. Frederick W. Whitridge, of New York, arrived at home, after a visit to Europe in the interest of The Bolivian Co., the syndicate which has acquired a concession of the Acre rubber district, in Bolivia. It is through Brazilian territory that the Bolivian syndicate must find an outlet for intercourse with the world. The apprehension of the Brazilian government arising from the fact that Americans are obtaining fiscal rights in and police control over so vast a territory in Bolivia, bordering on the territory of Brazil, has created a difficulty which has made international partition and ownership desirable. It is likely that the syndicate will also obtain English, German, and also some Belgian capital. American interests, however, will predominate. While Mr. Whitridge was dealing with the financial interests of the syndicate, Sir Martin Conway, who negotiated the syndicate's concession from Bolivia, was in Berlin explaining the objects of the enterprise to the German foreign office, which, it is understood, will probably forward the aims of the Bolivian syndicate, in which now foreign as well as American capital is interested.

A fact which perhaps is not generally understood, is that while the Amazon river proper is open to navigation by foreign vessels, its tributaries have never officially been declared "open." Brazil may, therefore, deny navigation rights on her waterways which connect the Acre district with the Amazon. A proposed treaty with Bolivia, covering this point, was withdrawn by Brazil on the announcement that the Acre concession had been ratified. The matter to which the international diplomatic support above referred to will relate, is the opening of Brazilian waters to foreign commerce—a result in which the world at large may be expected to feel an interest.

DIPLOMATIC negotiations have lately been in progress between Brazil and Bolivia, as a result of which it is reported that the latter country may be induced to revoke the concession relating to the Acre, and perhaps pay an indemnity to the *cessionnaire* to cover the expenditure involved thus far in relation to it. It is not to be supposed, however, that the concession will be dropped by its holders so long as a possibility exists of keeping it alive. By the way, there is no basis for reports that J. Pierpont Morgan, of New York, and the Rothschilds, of Europe, are interested in the matter.

A ROYAL RUBBER TRUST.—Writing of the rubber gathering situation in the Congo Free State, *The India-Rubber Journal* (London) says: "An enormous Trust, with lesser Trusts acting in direct association with the central Trust, rules the whole vast territory for its own ends, and the managing director is King Leopold II."

HONDURAS exported during the fiscal year 1900-01 rubber to the value of £5836 4s. 1d. and in 1899-1900 to the value of £4874 9s., according to a British consular report.

FIVE MILES OF RUBBER BELTING IN A GRAIN ELEVATOR.

A NOTABLE installation of rubber belt conveyors is that embraced in the system of grain elevators of the Grand Trunk Railway Co., at Portland, Maine. Within a few years past Portland has become an extensive grain shipping port by reason of the facilities afforded by the

ocean steamers are loaded. There are other galleries connecting the elevators with the yards of the Grand Trunk railway. The total length of the conveyors is over one mile, giving employment to over three miles of rubber belting, and making a system which is asserted to be the most extensive in existence. Each gallery conveyor has a capacity of 15,000 bushels

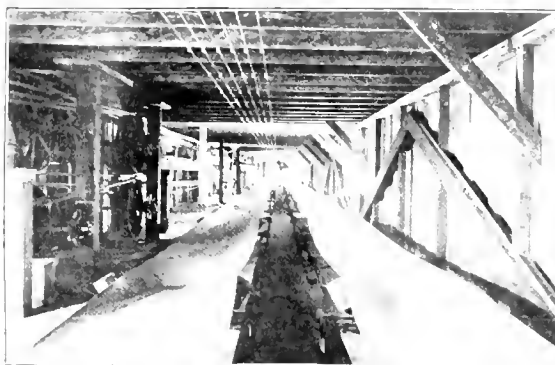
per hour, making the total carrying capacity of the wharf conveyors 900,000 bushels per day.

The belting for the new elevator was furnished by the Boston Woven Hose and Rubber Co. The total length of conveyor belts in the entire system is approximately 16,500 feet, and that of the elevating belts is 8700

feet. The architects and engineers of the entire system were the John S. Metcalf Co. (No. 804, The Temple, Chicago), who have had charge of the construction of some of the largest elevators in the United States, and also several abroad, including the extensive elevator of the Manchester Ship Canal Co., in England. It is through the courtesy of this firm that the illustrations which appear on this page have been obtained. There are thousands of grain elevators in the United States, and though not so large as the one at Portland, their combined requirements of belting have developed an important special demand, adding largely to the profits of the rubber industry.



BELT CONVEYOR FLOOR.

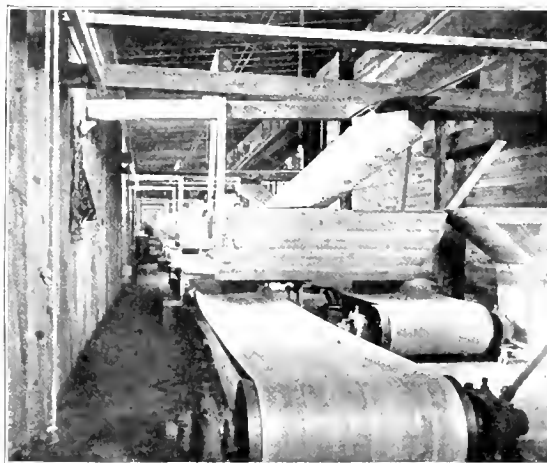


DOUBLE BELT GALLERY.

Grand Trunk railway in connection with the increased grain traffic of the Canadian northwest. The system at Portland comprises an elevator with 1,000,000 bushels capacity, completed in 1897, and a 1,500,000 bushel elevator, now ready for operation, which, together with their wharf conveyors, are so connected as to form one establishment.

The elevating equipment gives an unloading capacity from the train yards of 400 carloads of grain per day. The total length of elevator belting employed is 8700 feet. The old elevator is equipped with lifting buckets $7 \times 7 \times 18$ inches in size, mounted on 20-inch belts, and the new elevator with $7 \times 7 \times 20$ inch buckets on 22-inch belts. The elevating capacity is 2,000,000 bushels a day. Each elevator has the usual reversing belt conveyor in the cupola, for distributing grain longitudinally of the house, into a total of 370 bins in the two elevators.

The belt conveyor system connecting the two elevators sends out six shipping galleries, each 560 feet long, along the wharves where



SIDE GALLERY OF NEW ELEVATOR



TRIPPER DISCHARGE TO DOCK SPOUT.



SINGLE BELT GALLERY AND ROPE TRANSMISSION.

A RUBBER PLANTATION IN GUATEMALA.

THE large specimen of crude rubber shown at the entrance to the Guatemala pavilion at the Paris Exposition of 1900, and for which a gold medal was awarded, was produced from cultivated trees (*Castilloa elastica*) on the hacienda "El Baul," in Guatemala, on the Pacific slope. This plantation was specially mentioned by Dr. Paul Preuss, in reporting on his expedition to Central and South America, under the auspices of the German colonial committee. It has more recently been referred to at length—because of its size, of the care taken in the extraction of rubber, and of the good quality produced—in the *Journal d'Agriculture Tropicale* (Paris), from which the details that follow have mainly been derived.

The plantation "El Baul," until recently the property of Joachim Asturias, is now in possession of a wholesale mercantile firm of Hamburg, who are extensively interested, like many other German houses, in coffee planting in Guatemala, and its management is in the hands of Fritz König. He, by the way, is a brother-in-law of P. Ossaye, owner of the coffee, vanilla, and rubber plantations "Arenal" and "Seamay," in the same region. Such details are mentioned here as indicating that large and permanent planting interests exist in Guatemala, based upon outside capital, as a result of which much experience has been gained in such matters, which is shared by many persons of repute and success, whose confidence in the practicability of rubber cultivation is entitled to consideration.

According to René Guérin, director of the Central Laboratory of Guatemala, writing in the *Journal d'Agriculture Tropicale*, the plantation "El Baul" comprises about 50,000 rubber trees, of which 30,000 have reached a productive stage, being from 10 to 15 years old. Dr. Preuss, by the way, writing two years earlier, mentioned 20,000 trees between the ages of 15 and 20 years. The soil, very liberally watered, is divided into sandy and black-earth zones, though no difference has been observed either in the growth or the productiveness of the trees planted in the two zones. The vegetation is continuous, but at the beginning of the dry season—March and April, when the seeds ripen—the leaves turn slightly yellow and fall.

The trees growing in the plains furnish at all seasons a *latex* of the same quality. The trees on the higher altitudes, and which are for this reason less well watered, yield during the rainy season a larger quantity of *latex* than during the dry season. However, as this *latex* is less rich in caoutchouc, the true yield is the same. The rubber trees which have developed in the plains, exposed to all weathers, begin yielding seed from the third year. Those growing in the woods develop much slower, and at that age have not reached a height above 3 meters. But as soon as these have attained the height of the surrounding trees, and receive the sun's rays direct, their development proceeds rapidly and they reach large dimensions and possess exceptional vigor.

In extracting the *latex*, incisions are made in the bark horizontally, at a distance of $1\frac{1}{4}$ inch apart, so as to not girdle the tree completely. The *latex* coagulates spontaneously on exposure to the air, and at the end of two or three days the rubber can be gathered from the tree in bands, which, after being washed, may be rolled together into balls. Each tree yields about 125 grams of rubber (from incisions in the trunk alone, and without the branches), and as the cuts will heal

within three months, it is possible to make four extractions each year, giving a total yield of 500 grams [=1 $\frac{1}{16}$ pound.] The annual yield of 1000 grams [=2 $\frac{1}{8}$ pounds] mentioned in Dr. Preuss's report, resulted from making incisions in the branches as well as the trunks, but this involves an undesirable amount of labor.

Much thought has been given on the plantation "El Baul" to the choice of a tool for incising the rubber trees, with a view to affording a suitable outlet for the *latex*, without cutting into the wood, which contains no *latex*, and the wounding of which tends to decay. Dr. Preuss found in use in Guatemala for this purpose a sort of transformed saber, a sketch of which appears in the first of the two cuts herewith. Señor As-



turias has had made to order, in the United States, the tool illustrated in the second cut, which is regarded as superior to the old model. The latter comprises a blade of tempered steel—square at the end, about 3 inches long, and at the top about $1\frac{1}{3}$ inches wide—mounted in a hard wood handle $3\frac{1}{2}$ inches long. The steel blade diminishes in thickness from the handle, until at the other end it does not exceed the thickness of a playing card. The left angle of the blade is turned over so as to form a rounded gutter, about finger wide, and at 45 degrees to the axis of the tool. The left side of the blade is notched right at the gutter, so that the lower end of the gutter projects at that side. The parts that do the cutting are the two sides of the turned over angle.

M. Guérin states that Señor Asturias intends trying a new process of extraction, by the employing a vacuum, in the hope of accelerating the flow of *latex*, and adds: "It would be desirable if other cultivators, intelligent and progressive like M. Asturias, would display the same activity in the improvement of rubber cultivation and the rubber product." In too many cases, however, the collection of rubber is left to the natives, who injure the trees unnecessarily, besides producing a poor quality of rubber by the use of soap or vegetable compounds, whereas by the spontaneous coagulation of the *latex*, after the complete elimination of the *serum*, an article of superior quality may be derived from the same trees.

It was found by Señor Asturias that trees on his plantation which presented precisely the same appearance, yet yielded different qualities of rubber. M. Guérin forwarded specimens to the museum of natural history at Paris, where Jules Poisson, of the museum staff, has discovered differences in the fructiferous receptacles of the seeds, and is further engaged in endeavoring to discover whether different species exist. While some of the trees yield caoutchouc of a superior quality, the product of others remains after coagulation sticky, glue like, and with little elasticity. There is also a perceptible difference in the color of the *latex*, that from both trees being white, but in one case with a tinge of yellow and the other with a grayish tinge.

The question of differences in the product of the *Castilloa elastica* is by no means new, but generally the trees not yielding the true rubber have been supposed to bear outward marks by means of which they could be avoided by persons having any experience in hunting rubber. By the way, in connection with the subject, it is interesting to quote from Dr.

Preuss: "One has repeatedly asserted to me that there were, on the other hand, places where *Castilloas* exist that are rich in caoutchouc, and yet whose latex flows along the trunk, so as to be collected in liquid state in vessels, but I have never been able myself to prove the fact." Which would indicate an interesting difference between the trees on "El Baul," the latex of which, as above stated, coagulates on the trunks, and those in Mexico, for example, whose latex flows more freely and requires to be coagulated by other means.

TABASCO COMMERCIAL CO.

[Plantation "El Zapote," state of Tabasco, Mexico. Office: No. 49 Pearl street, Hartford, Connecticut.]

THE company own 14,000 acres of land. Within eighteen months they have shipped over \$20,000 worth of mahogany to the United States. They purpose planting rubber and cacao on a portion of their property, expecting this year to set out 50,000 rubber trees and to make a nursery of 350,000 plants. The capital is \$150,000, taken principally by thirty New England business men. Officers: Hon. Daniel N. Morgan, late treasurer of the United States, president; H. C. Williamson, superintendent of the Danvers Arms Co., vice president; Rev. Charles A. Piddock, treasurer; and Corey F. Wood, secretary. G. H. Clemow is manager in Mexico.

HARTFORD SUGAR AND RUBBER CO. OF MEXICO.

[Plantation in the state of Tabasco, Mexico. Office: No. 49 Pearl street, Hartford, Connecticut.]

INCORPORATED April 22, under the laws of Maine; capital, \$600,000. Incorporators: R. P. Chapman and Corey F. Wood, the latter being secretary of the Tabasco Commercial Co., mentioned in this paper, and whose plantation the new company's property adjoins. The efforts of the company will be devoted at present to planting sugar cane, which promises earlier returns than rubber, and a \$100,000 sugar mill will be erected. Enough sugar will be cultivated to give employment to such a mill, and it is proposed to plant the remainder of the tract of 2000 acres in rubber. The management is practically the same as that of the Tabasco Commercial Co.

THE MERIDEN RUBBER PLANTING CORPORATION.

[Plantation "El Meriden," Tula, state of Vera Cruz, Mexico. Office: Meriden, Connecticut.]

J. HERBERT FOSTER, manager, reports from Tula to his company that he has closed the option that he held on the Buffum property, near Tula, and made the first payment on the purchase price. He has removed with his family to Tula and begun work on the plantation, on which rubber planting had already been begun, having the assistance in the way of advice of the former owner of the property.

A "TEACHERS' PLANTING COMPANY."

ARTICLES of incorporation were filed April 27, under the laws of New York, for the New York Teachers' Plantation Co., to plant rubber in Mexico. The capital mentioned is \$150,000, and the first directors named are Magnus Gross, George H. Chatfield, and W. L. Ettinger. It appears that the first two named are teachers in New York city, and the third a physician. A preliminary pamphlet on the objects of this company has been issued from the office of Fred C. Leubuscher, a lawyer, No. 99 Nassau street, New York. The idea is to have 750 shares, of \$100 each, subscribed by teachers on monthly payments of \$2 per share, which shall be preferred stock. The remainder of the capital—750 shares of common stock—is to be devoted to the purchase of land and the payment of salaries for five years, promoters' fees, etc. The owners of the preferred shares will have a representation of four out of the five directors of the company, three of whom shall be teachers. The idea is emphasized throughout that it is to be a teachers' company.

It nowhere appears that any one is interested who has had experience in rubber or other tropical planting, except that mention is made of the manager of an important planting enterprise in Mexico who has promised to give some supervision to the development work on a tract of 1000 acres to be purchased on the isthmus of Tehauntepec, near the Coatzacoalcos river. So far as the statements in regard to rubber in Mr. Leubuscher's pamphlet are concerned, they are neither very informing nor so misleading as some others that have appeared lately. It is doubtful, however, whether rubber trees ten years of age will "produce anywhere from three to five pounds." It is also too good to be true to learn that "The present profit of from thirty to sixty cents per pound [on cultivating rubber] might easily be doubled in a few years."

The not unusual mistake is made of considering Mexican rubber as worth less than Pará rubber only on account of being less clean, and the pamphlet states that "With Pará rubber worth \$1 per pound, clean Mexican rubber is worth from 65 to 90 cents," and it is added that the cost of putting rubber in market is only 10 cents. There can be no objection to the printing of any statement regarding rubber planting profits so long as their distribution is confined to persons who can readily afford to lose their investments in case these estimates should prove unfounded. But it is to be hoped that the teachers of New York city, none of whom, presumably, have any money to waste, will not invest in the enterprise here outlined without first seeking advice from persons competent to criticise new financial schemes. It may further be suggested that a rubber plantation should be founded upon a better basis than monthly subscriptions of \$2 per head from persons whose income is neither large nor assured.

AN ENGLISH RUBBER PLANTATION IN MEXICO.

[Hacienda la Esperanza, Postoffice Tierra Blanca, state of Vera Cruz, Mexico.]

WHILE most of the interest in rubber planting in Mexico has been developed with capital from the United States, and principally under the control of large companies, there are some plantations privately owned by citizens of other countries. One, for instance, is that above mentioned, the property of George Cullen Pearson, of England. In a statement from the manager of this plantation to THE INDIA RUBBER WORLD, under date of May 20, it appears that there are now growing on this property 50,000 rubber trees (*Castilloa elastica*) which were four years old in June; 100,000 trees three years old; and 200,000 trees two years old; besides a large number of plants in nurseries. This plantation, by the way, is one which has been referred to in certain quarters—but not on the authority of the owner—as embracing a large number of rubber trees old enough to be tapped this year.—Mr. Pearson's plantation is located two miles from the "Hacienda de Yale," owned by Alfred Bishop Mason, of Chicago, and president of the Vera Cruz and Pacific Railway Co. Mr. Mason's two nephews, James Trowbridge and R. Willis, are resident managers of this hacienda, on which a considerable amount of rubber planting has been done.

RUBBER PLANTING COMPANY PUBLICATIONS.

MEXICAN Gulf Agricultural Co., Kansas City, Missouri.—Coffee and Rubber Culture as an Investment. 62 pp.

The Vera Cruz Development Co., Canton, Ohio.—[Folder, giving outline of plans for rubber planting.]

Isthmus Plantation of Mexico, Milwaukee, Wisconsin.—(1) Information Bulletin, Nos. 8-9, 13. 6 pp. each. (2) Mexico, The Land of Prosperity. 48 pp. (3) Opportunities. 13 pp.

Mutual Rubber Production Co., No. 1, Boston.—(1) Proofs of Profit. (2) A Certain and Safe Income. 26 pp. (3) Form of Contract [with shareholders]. 4 pp.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

DESPITE optimistic reports from some quarters, the general tone has been one of quietness almost verging on depression. This perhaps is only to be expected, as in consonance with the bulk of the trade of the country during the last six months, and it behooves manufacturers therefore to bide with what degree of patience they can command a turn in the tide of affairs.

STATE
OF TRADE.

Whether this turn will coincide with the declaration of peace in South Africa is a matter on which one does not care to be prophetic; it certainly seems that such a coincidence has been too readily assumed. One result of the recent quietness in the rubber trade, and one fraught with sinister consequences, too, to those immediately concerned, will probably be seen in the weeding out of some of the smaller firms. There is no doubt that the manufacturing capacity of the British rubber works is in excess of the demand which is existent, and which can be looked forward to with confidence, and the closing of a few concerns would in no wise indicate that an opening exists for the investment of new capital in a similar direction. That is, unless some new use for rubber is found. During the last seven years, since the cycle tire boom, no new use for rubber on anything like a large scale has been found, and although pressure was at first caused by the cycle trade demand, there is no difficulty whatever in meeting the demand at the present time promptly. So far indeed from the use of rubber being on the increase, except in the tire trade, it is notorious that in some directions it is being replaced by other and more lasting material. The engineer does not pin his faith so closely to rubber as he used to do; he finds that other materials answer his purpose as well, if not better, while at the same time costing less money. The use of rubber in electrical insulation is also another instance where a decline has been experienced, and there does not seem any likelihood of its again achieving its quondam prominence in this direction. However, I don't wish to be accused of adopting an unwarranted tone of depression, and certainly reports which have quite recently come to hand from some of our large firms show that since Easter, trade all round has experienced a decided fillip, overtime being necessitated where a few months ago extreme dullness prevailed. It is all the more satisfactory to be able to report this as it savors somewhat of the unexpected, though at the same time such reports are not by any means general.

A NOTICE has appeared in the technical press that the Board of Trade are advised that precautions should be taken as regards the carriage of lampblack on board ship,

LAMP-
BLACK.

although the occurrence of spontaneous ignition is extremely rare. It would seem rather late in the day to draw attention to this possibility of disaster. What is wanted, however, is something in the nature of a careful research to indicate the conditions which are most favorable to spontaneous ignition. I daresay there are few rubber manufacturers who have not had an instance of it in their works. My own experience in the matter goes to show that some blacks are much more liable to this danger than are others. The name lampblack as commonly used is rather misleading, as it is applied to products differing widely in coloring power and density and prepared in quite different manners. Almost as misleading is the term "vegetable black," which in many cases is but a courtesy title. As applied to

an oil product it does not seem particularly appropriate. But space does not permit of enlarging upon the subject of nomenclature, and to keep to points of more practical importance it seems clear to me from cases which have come under my observation that a good deal depends upon the black manufacturer exercising a requisite degree of caution. The filling of orders hurriedly has in the case of a special make of black led to trouble which under normal conditions did not occur. I have not known of any cases of spontaneous ignition in connection with very light carbon blacks, and although I don't pretend that I am entitled to generalize from my own observation alone, I don't think that I am out of order in recommending the use of the lightest carbon blacks in place of heavier blacks where immunity from fire is an especially important consideration. Some years ago a good deal of heavy black was sold to rubber works under this name, but it finds very little favor now-a-days, manufacturers having awakened to the fact that the purchase of whiting or silica admixed with lamp black is by no means a truly economical act. Heavy black of this sort must not, of course, be confounded with genuine heavy black, which may be all carbon, though prepared in a dense form. Comparatively little black is used in the mechanical trade, the waterproofer and especially the rubber shoe manufacturer being the principal customers, freedom from resinous or fatty matters being the chief desideratum.

WE are still expectantly awaiting Dr. Weber's book on rubber analysis, which some time ago was stated to be in the press.

ANALYTICAL
NOTES.

Other chemists have of late been prominent in contributing to this branch of our chemical literature, and we may be said now to be in a pretty good position as regards methods. The weak part of the business, however, seems to lie in the tediousness of so much of the necessary work and the number of separate determinations which are necessary in the case of anything like a complete analysis of a rubber mixture. The rubber works chemist cannot always afford the time thus requisitioned, while the outside chemist finds that it is difficult, if not impossible, to get adequate remuneration for the number of hours he has perforce to work. From one cause and another there has been a reduction generally of late years, in the fees paid for analytical work, and so, although there has been no falling off in the publication of detailed analytical methods, there seems a strong likelihood that many such will find very little employment. We are now told that a correct rubber analysis should include an elementary analysis by combustion for the carbon and hydrogen, and this, with the various precautions against error which are necessitated, will certainly not tend to lighten the analyst's burden. This combustion, which is recommended by Heintz, has been criticised by Frank and Marckwald, who in the course of their observations remark that it is extremely difficult to remove the alcoholic potash used in the extraction of substitutes. The writer can testify to this point, which does not seem to have been sufficiently recognized. Some time ago corroboration on this point was obtained by the writer in a communication from Mr. Van der Linde of the Gutta Percha and Rubber Manufacturing Co. of Toronto, who has devoted considerable time to matters connected with rubber analysis. To refer to another point, it is somewhat unfortunate that analysis fails us in cases where there is an admixture of bodies, which, although

of different names and physical properties, yet have the same chemical composition. Take for instance, French chalk and asbestos powder; these may both occur in the same mixing, but the analyst cannot be precise upon the point, important though it be, in the case of steam packing. If to the above magnesium silicates, carbonate of magnesia is also added, the difficulty with which the analyst is confronted is augmented, and he must be excused if in his report he uses terms of considerable latitude.

SOMEWHAT conflicting accounts continue to be received as to the degree of favor which this ball has achieved. Certainly

HASKELL
GOLF BALL. in its later improved form, known as the "bramble" pattern, it is thought much more of than as at first introduced, and just at present the supply cannot cope with the demand, even at the price of 2 shillings 6 pence each. The new form having a thicker cover, is found not so liable to split under a severe stroke, and this is considered a great advance.

A GOOD testimony to the success which various American rubber packings have attained over here is seen in the desire

AMERICAN
STEAM
PACKINGS. which is evinced by many of our firms to make similar products. Not that they are inclined to bow down before the American goods as something necessarily inferior to what they have been accustomed to make themselves. The attempts to work on American lines have been necessitated rather by repeated applications from their customers, and they have perforce found it necessary to indulge in that imitation which we are told is the best form of flattery.

SOME difficulty was at first experienced in making this sort of hose of the high quality which is demanded by such buyers

RUBBER
LINED
HOSE. as the British admiralty; the difficulty lying in applying the seamless rubber lining without destroying or at any rate injuring the rubber in the process if the rubber was of first quality. The idea that

only common quality rubber could be used for the purpose has however been shown to be fallacious, and some of our prominent firms are now turning out the hose in complete concordance with the somewhat stringent regulations as to quality of rubber which are embodied in the admiralty specifications.

IN this brief mention it is not proposed to give any details of the business carried on at the the two rubber works which the country possesses. The chief interest of Hol-

HOLLAND
AND THE
RUBBER TRADE. land to our own manufacturers lies in the fact that it is the only country in Europe where there are no patent laws. It seems rather

strange that Holland should occupy this anomalous position, but though I have recently been sojourning in the land, this subject was not one of those which came up for discussion, and I am unable to give any reasons as to the why and wherefore. I know that certain transactions in the tire business have in recent years taken place between English and Dutch firms, and which were of a nature not altogether palatable to the Dunlop company.

THE manufacture of this rubber in Great Britain is largely in the hands of the Dental Manufacturing Co., Limited, formerly Claudius Ash & Sons, a good many practi-

DENTAL
RUBBER. tioners being interested as small shareholders. This firm has a small rubber works in the east of London.

Another firm making rather a specialty of this class of work is the Scotland Vulcanite Co., Limited, of View Forth Works, Edinburgh, though I am not familiar with any of their products. With regard to various other rubber firms who have dabbled in the business from time to time, it appears that the chief difficulty experienced has been to turn out goods which will keep

their color during vulcanization. The effect of the necessarily large amount of sulphur used is to turn the bright red of the vermilion to a dirty brown, a result not at all desired by the man of the forceps. It has been suggested that some modification of ordinary flowers of sulphur might solve the difficulty. I don't know whether any such sulphur exists as a trade secret, but am inclined to be sceptical on the point.

THE manufacture of these plasters, or such of them as are based on rubber, is carried on by some of our rubber firms.

MEDICAL
PLASTERS. The goods as a rule are ordered by manufacturing pharmacists, who give close instructions, and as a rule, send the correct proportions of gums and drugs which are to be mixed with the rubber, these bodies, or rather their constitution, not being revealed to the rubber manufacturer. The business is not much run after as it is somewhat difficult and by no means highly remunerative. At the Chemists' and Druggists' Exhibition held in June in Manchester, under the auspices of *The British and Colonial Druggist*, the old established firm of A. de St. Dalmas & Co. (Leicester) had a large and varied assortment of rubber adhesive plasters and bandages, Gutta-percha tissue, etc.

THE North British Rubber Co., Limited, have been making extensive alterations in their works, a good deal of rebuilding having been necessitated.==The Tubeless Pneumatic Tyre and Capon Heaton, Limited, are still

SHORT
MENTION. being carried on under the surveillance of a receiver, though it is now almost entirely in the hands of Mr. Palmer, the chairman of the company, who holds nearly all the debentures.==The Rowley puncture locator, brought out some time ago by Thomas Rowley, of Manchester, continues, from what I hear, to gain in popular favor. It is claimed for this fluid, not only that it is a ready means of detecting a puncture, but that it also heals it, if a small one.==The Clayton Engineering and Electrical Construction Co., Limited, of Newton, near Hyde, have recently gone into liquidation. This firm, on whose board the Byrnes, of Birmingham, were represented, has been largely engaged in the manufacture of rubber machinery during the few years of its existence.==On June 6 a motion for the winding up of the Hyde Imperial Rubber Co. was brought at the Stockport county court on the initiative of Mr. Kramrisch, a large creditor. The proceedings were lengthy and animated, the matter finally being adjourned for a week.==Dr. C. O. Weber is about to start for Central America, in order to give expert advice to a rubber planting company as to preparing the rubber for sale in a pure condition, so as to reduce largely, if not to annihilate the customary washing expenses in the rubber works. His visit will only be of short duration.

==An advertisement recently appeared in a London paper for a man conversant with the details of the rubber manufacture, to go out to South Africa. This rather looks as if the erection of a rubber works was in contemplation. I have heard the opinion expressed that rubber factories in Africa should pay, owing to the contiguity of the raw material, but this advantage, if it is an advantage, which is by no means clear, may easily be counterbalanced by difficulties in the way of getting of other materials incidental to the manufacture.

UGANDA.—In the instructions to Lieutenant Colonel J. H. Sadler, on appointment as British commissioner and consul general in the Uganda protectorate, in East Africa, stress is laid upon the importance of developing the resources of that region, India-rubber being mentioned specially. The reports of the former British commissioner in Uganda, Sir Harry Johnston, have made clear the existence of rubber (*Landolphia* species) there, to an important extent.

SURFACE ORNAMENTATION OF RUBBER GOODS.

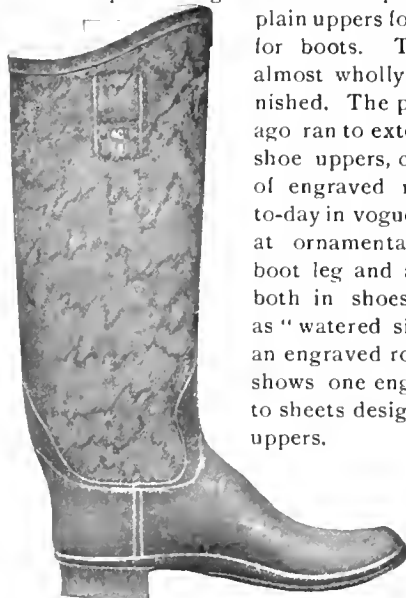
THE different ways in which India-rubber goods may be ornamented affords a very interesting study, besides which they often have proved exceedingly valuable.

It is not a far cry to the time when the plain black gossamer suddenly became much more attractive through the invention of the India stripe. Of course, when that was once accomplished, a great many surface patterns were produced, some of them so ornate that they found no wearers; they were useful only in showing what could be done along such lines. In single texture mackintoshes beautiful lining effects have been attained by running colored silk threads on the surface of the rubber, which is but one of many styles of surface ornamentation.

The rubber clothing business, however, knows very little of this art as compared with such lines as boots and shoes, druggists' sundries, and carriage cloth and imitation leather lines. There are three ways in which this work is done, by using engraved rolls, flexible impression sheets, and dies. These impressions, known by a variety of terms, such as embossing, printing, etc., are all done on unvulcanized rubber in sheet form. For heavy goods, such as carriage drills, the rubber is first calendered to the desired thickness, and upon the fabric which is to be its permanent backing, and afterward varnished and hung in festoons in a dry heater for curing. For lighter goods, like shoe uppers, the calendering and embossing are done by the same roll at one and the same time.

Where the flexible impression sheet is used, which is chiefly in the druggists' sundries line, the sheet of rubber is calendered upon a sheet of fabric which has raised figures which are transferred to the lower side of the sheet. The rubber is then stripped off, made up into the desired form, and cured in a bed of French talc to hold it until set by the cure. Metal plates at best were but a make shift, and were often of lead, from which many rubber duplicates were taken vulcanized, and then used as flexible impression sheets on unvulcanized stock, the printing being done in a cold press.

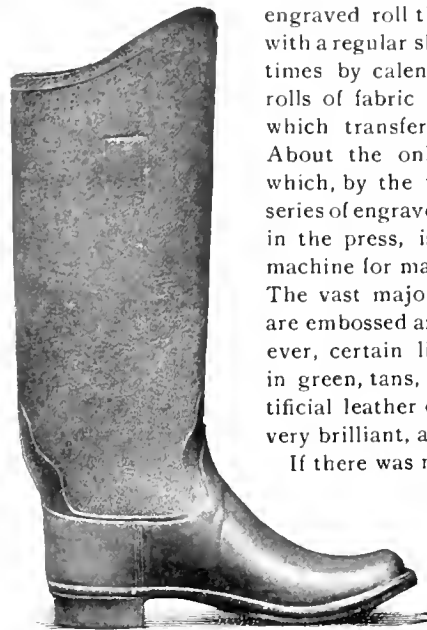
In rubber footwear special calendars are constructed, in which are placed engraved rolls for producing soling, fancy or plain uppers for shoes, and pebbled legs for boots. This work is of course almost wholly black, and highly varnished. The public taste some years ago ran to extreme ornamentation of shoe uppers, calling for a large stock of engraved rolls. Plain effects are to-day in vogue, the only real attempts at ornamentation being the pebbled boot leg and a very pretty effect used both in shoes and boot legs known as "watered silk." The illustration of an engraved roll on the opposite page shows one engraved to give this effect to sheets designed to be cut into shoe uppers.



WATERED SILK BOOT LEG.

In carriage cloth and imitation leather for upholstery work, another type of calender is used, having steel engraved rolls

running against specially prepared paper rolls. In druggists' sundries, surface impressions for goods like fountain syringes, water bottles, and tobacco pouches, are sometimes made by an



PEBBLE LEG BOOT.

The few illustrations shown herewith will give a very good idea of some in actual use to-day.



OLD STYLE ENGRAVED UPPER.

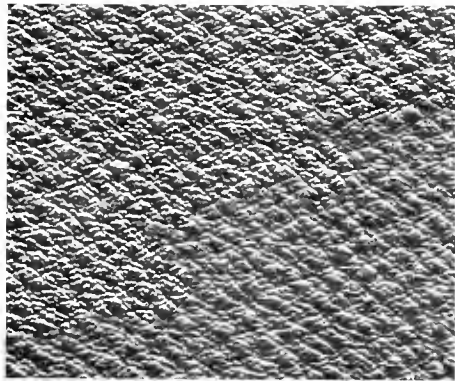


IMITATION WATERED SILK TOP.

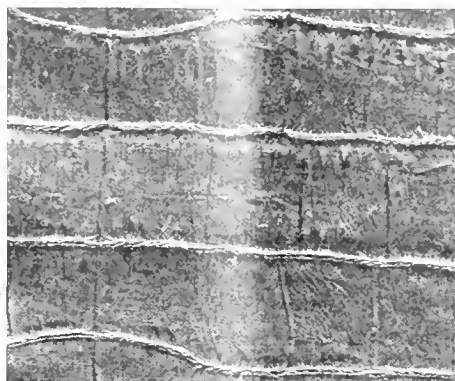


RUBBER SOLING.

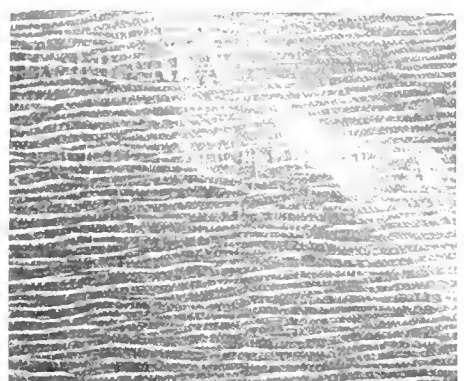
To produce lining effects, fabrics may be coated in the usual manner, and then given a coat of tinted rubber solution or dusted with tinted farina, dyed bone dust, arrowroot, aluminum dust, or other similar material, and then covered with a transparent coating of rubber and vulcanized. Or two tints of powder, one under and the other over the transparent coating, give a shot or luminous effect. For printing patterns upon rubber the surface is coated with shellac, powdered glass, tin, or asbestos, etc., and a transparent coating put upon the outside before the cure. Mechanical devices are also used in connection with the above, wavy stripes being formed by giving a transverse motion to the feed roll, and a watered silk effect by a roll with straight ribs followed by one with wavy lines, or by two straight ribbed rolls between which the cloth is given a reciprocating motion as it passes through.



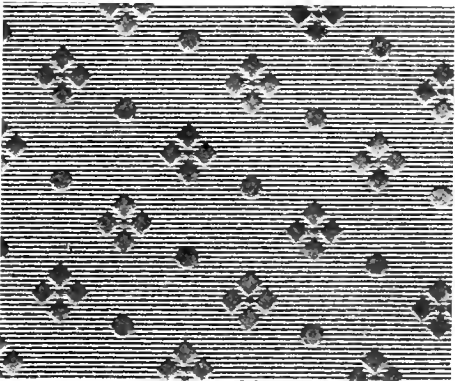
LEATHER PEBBLE



ALLIGATOR



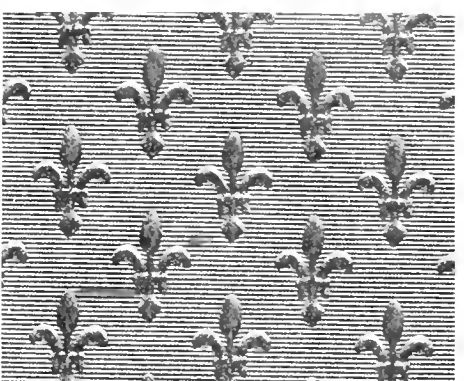
LEATHER GRAIN.



DICE PATTERN.



FLORAL PATTERN.



FLEUR-DE-LIS.



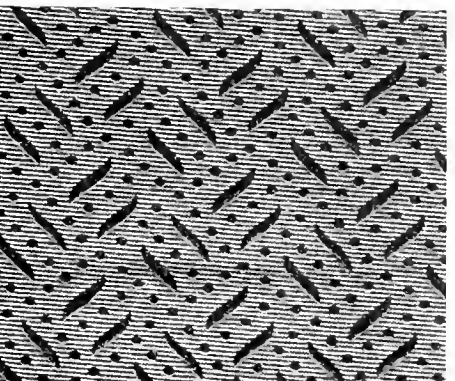
WREATH EMBOSSING.



RIBBED OR CORRUGATED.



WATERED SILK EFFECT.



PEN SCROLL.



ENGRAVED ROLL PRODUCING WATERED SILK EFFECT

SURFACE ORNAMENTATION OF RUBBER GOODS.

ENGRAVED ROLL, WATERED SILK EFFECT, AND TYPES OF SURFACES PRODUCED BY ENGRAVED ROLL CALENDERS.

A DECISION IN FAVOR OF THE GRANT TIRE PATENT.

ANOTHER judicial decision has been rendered, bearing upon the Grant patent for solid rubber wheel tires, this time in *re* The Consolidated Rubber Tire Co., *et al. v.* The Finley Rubber Tire Co., *et al.* The case was tried in the United States circuit court for the northern district of Georgia, at Atlanta, the decision being handed down by Judge Newman, on June 2. Before final hearing, The Goodyear Tire and Rubber Co., alleging that they were the real party at interest, rather than the Finley company, were made party defendant.

The original bill sought to enjoin the infringement by the defendants of the Grant patent. The contention for defendants was that the invention claimed by Grant is a mere combination, or aggregation, of old elements, each of which was well known to the prior art before the date of the Grant patent. Defendants claim that combining these various elements required only ordinary mechanical skill, and involved no discovery and no new principles.

The court reviews the former decisions, bearing upon the same patent, by Judge Thomas, at Brooklyn, and by Judge Wing, at Toledo, and concurs in their finding that the Grant patent does disclose patentable invention, though the several parts which constitute the essential features of the invention were each used in different combinations in previous inventions. In support of this position the court refers to numerous prior decisions in patent cases. One such decision, in a case wherein it was argued that a certain combination of devices did not constitute invention, runs, in part:

This argument would be sound if the combination claimed by W. was an obvious one for obtaining the advantages proposed—one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not for years occur in this light to even the most skillful person. It may have been under their very eyes, they may be almost said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice. Who was the first to see it, to understand its value, to give it shape and form, to bring it into notice, and urge its adoption, is a question to which we will shortly give our attention. At this point we are constrained to say that we cannot yield our assent to the argument, that the combination of the different parts or elements for attaining the object in view was so obvious as to merit no title to invention. Now that it has succeeded it may seem very plain to any one that he could have done it as well. This is often the case with inventions of the greatest merit. It may be laid down as a general rule, though perhaps not an invariable one, that if a new combina-

tion and arrangement of known elements produce a new and beneficial result, never attained before, it is evidence of invention.

But, says the decision, whether its conclusion is correct or not, the defendant Finley is estopped for setting up the invalidity of the Grant patent. At one time Finley entered into a contract with the Rubber Tire Wheel Co., then owners of the Grant patent, for the exclusive sale of tires made under that patent, in certain territory, in said contract acknowledging the validity of the Grant patent and agreeing not to sell any other tires than those covered by this patent during the life of the patent—unless the contract should sooner terminate by the fault of Rubber Tire Wheel Co., or its successors. This contract was assignable by Finley with the consent of the other party to the contract, and in time Finley disposed of his interest to what is now the Munford Rubber Tire Co., of Atlanta. The decision says:

It would work little profit to Munford to have obtained this right [to sell tires] if the patent by virtue of which the Rubber Tire Wheel Co. was authorized to make such an exclusive grant should be invalid. Finley having recently received a valuable consideration for the exclusive right to sell the Grant patent in certain states, certainly he cannot be heard in a court of equity when he seeks to invalidate this patent as against his assignee.

It had been urged, by the way, in behalf of Finley, that in view of certain circumstances the contract referred to had become void, but the court held that these circumstances, being connected solely with the merger of the Rubber Tire Wheel Co. in the Consolidated Rubber Tire Co.—which was clearly within the right of the former company—in no way affected the legal status of the contract entered into originally by the Rubber Tire Wheel Co. and Finley.

The next question presented in the case was whether the tire which Finley was marketing when this bill was filed infringes the Grant patent. The tire in question is the Goodyear "wing" tire, covered by United States patent No. 623,703, granted to Joseph A. Burroughs, April 25, 1899. On this point the decision reads:

I agree thoroughly with Judge Wing in what he says [decision rendered in *re* The Rubber Tire Wheel Co. *v.* The Goodyear Tire and Rubber Co., at Toledo, Ohio, November 23, 1901], as follows: "The infringement of the defendants is clear. While it is urged by the defense in their answer that they are operating under a patent issued to Burroughs, the proof shows that the device shown and described in the Burroughs patent is not the one which the defendants are using, but they have been and are using the exact device shown and described in the complainant's patent, except that on the rubber part of the tire used by the defendants there is a thin excrescence of rubber which performs no function whatever."

Judge Newman states, in conclusion, that after having prepared his decision, but before it was filed, he received and examined the decision in the United States circuit court of appeals at Cincinnati, declaring the Grant patent "void for want of patentable novelty." He held, however, that the court over which he presided should "exercise and express its independent judgment," instead of being controlled by a decision in another circuit.

* * *

It will be remembered that in November last, in a suit for infringement of the Grant patent in France, a decision was rendered similar to that reported above, after a hearing of the same testimony as to want of novelty in the patent.

NOTE.—This litigation relates to United States patent No. 554,675, for confining a solid rubber tire in the steel channel on a wheel rim by means of longitudinal wires through the rubber, the wires being jointed by electric welding. The patent was issued to Arthur W. Grant and disposed of by him to The Rubber Tire Wheel Co., merged later in The Consolidated Rubber Tire Co. The first suit for infringement brought to trial was decided at Brooklyn, New York, in favor of the plaintiffs. The second was decided at Toledo, Ohio, in a court of similar standing, also in favor of the plaintiffs. This decision, however, was reserved in May last, at Cincinnati, by a higher court, in the same jurisdiction, declaring the patent void for want of patentable novelty. The decision reported on this page at Atlanta, rendered also in a court of first resort, is favorable to the plaintiffs.



the court holding that it is not necessarily controlled by the finding of a higher court outside of that circuit, or jurisdiction. It is now announced by The Consolidated Rubber Tire Co. that they will appeal from the Cincinnati decision to the United States supreme court.

THE USE OF RUBBER IN PAINTING MACHINES.

DURING the construction of the World's Fair buildings at Chicago, nine years ago, a certain inventive genius who stated publicly that he proposed to paint the buildings by machinery was mercilessly ridiculed. The "knowing ones," however, saw buildings which it was estimated would take four months to paint by hand, thoroughly and durably painted in one week by machinery.

The paint was sprayed on the building through India-rubber hose from tanks, from which it was expelled by means of compressed air. An illustration of this process, by the way, appeared in THE INDIA RUBBER WORLD of July 15, 1893. Since that time, thousands of painting machines have come into use, involving many advantages, not the least of which, of course, is economy, and the subject is referred to here for the reason that without the help of the rubber manufacturer in supplying the flexible hose needed the new method of painting never would have been possible.

Complete in itself, including paint receptacle,=The Muralo Co., New Brighton, Staten Island, N. Y.

as a preservative of both woodwork and ironwork is, of course, universally conceded. In these days of large structures, not only is the cost of paint very large, but the expense of scaffolding, brushes, labor, and so on, adds enormously to the expense of painting

over a great structure. These machines are being used for the painting of factories, breweries, distilleries, hospitals, stables, greenhouses, packing houses, power plants, steamships, railway stations, freight cars, tobacco warehouses, plantation buildings, and sheds and houses in general. The catalogues of the firms manufacturing painting machines contain the names of hundreds of customers, including such concerns as the Standard Oil Co., the New York Central Railroad Co., the United States Sugar Refining Co., the Singer Manufacturing Co., the leading iron manufacturers, milling companies, brewing companies,

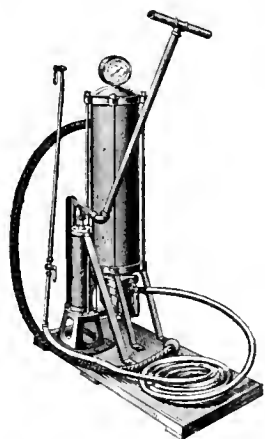
and so on, the inference being that if such concerns find it advisable to use these devices, their competitors must also find themselves obliged to use them.

As may be supposed, painting by machinery requires specially prepared paints. The machines are not recommended for use with heavy oil paints—that is, those whose base is white or red lead mixed with heavy linseed oils—for the reason that these ingredients, being of a sticky, gummy nature, clog up and prevent satisfactory spray working. It is known that the thinner the coating materials are applied, provided that they thoroughly cover the surface, the neater, more lasting, and satisfactory the work will be. The thicker the paint is put on, the more liable it is to crack and fall away. It is found by experience that paint can be more evenly distributed by means of machinery than in any other way, besides which it can thus be applied in many places which cannot be conveniently reached



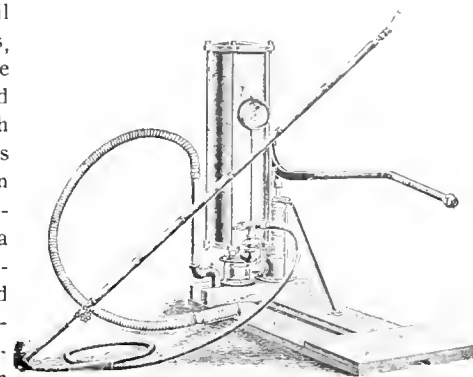
CYCLO PAINTING MACHINE.

Complete in itself, including paint receptacle,=The Muralo Co., New Brighton, Staten Island, N. Y.



HOOK'S "BEST" PNEUMATIC COATING MACHINE.

F. E. Hook, Hudson, Michigan.



BEAN PNEUMATIC COATING MACHINE.

Showing suction hose with strainer; discharge hose; and bamboo rod for ceiling work.=The Bean-Chamberlain Manufacturing Co., Hudson, Michigan.



STAR WHITEWASH AND PAINTING MACHINE.

With attachment for use in a plant having a compressed air system.=The Star Brass Works, Chicago, Illinois.

in painting with brushes by hand. One of these machines is stated to be capable of doing the work of from eight to twenty-five men in a given length of time.

In the operation of the pneumatic coating or painting machines each is supplied with a length of suction hose—usually 5 feet, one inch, wire wound, provided with a strainer—to con-

nect with the paint reservoir, and from 20 to 25 feet of $\frac{1}{2}$ inch delivery hose. The machine then being charged with air, the operator guides the discharge on the surface to be coated, and the liquid is formed into a filmy, misty spray, which reaches every part of the surface to be covered, including nooks and crevices. Various companies making these machines offer also paints and whitewashes specially prepared for use with them, or formulas for making the same. One of the items of rubber in connection with the painting machine is a plunger ring for the compressed air apparatus, the importance of having which of good quality is strongly emphasized. Usually, these machines have their own compressed air apparatus, but they may be adapted for the use in plants which already have a compressed air system installed.

VIEWS OF A MANAOS RUBBER MERCHANT.

DURING a recent visit to New York of Mr. N. H. Witt, a leading rubber merchant of Manáos, the rubber center of the upper Amazon, he was asked by THE INDIA RUBBER WORLD for his views on the practicability of companies being organized to work on a large scale in the movement of rubber direct from the producing districts to the consuming markets.

"I do not believe that such a thing can be done as yet," said he. "Not that I profess to know more about the subject than any one can know who has spent several years in the rubber trade on the Amazon, and who has felt an interest in everything that has gone on around him pertaining to rubber. My own business is that of buying and selling rubber along the lines of established custom. But I have seen nothing that would lead me to take an interest personally in such an undertaking as you suggest. And I have seen not a few failures.

"There was, for instance, the Comptoir Colonial Français, which lately went into bankruptcy in Paris, after losing about \$2,000,000 in a little more than a year's trading in rubber on the Amazon. These companies, starting without any knowledge of conditions in the rubber countries, send out managers who feel self confident and who are not disposed to learn anything from persons who have been longer on the ground and have gained, perhaps by painful and costly experience, some knowledge of the facts which have to be dealt with.

"The difficulty of the labor problem is an old story which continues to be repeated. In the Amazon valley all the labor must be imported, together with provisions. Whether the trouble is less in this regard in Bolivia, where there are indians in the rubber forests who can be induced to work, I do not know. But even there there are no provisions on the ground, and on the Béni I understand that the proprietors of rubber camps are obliged to import a good quantity of food products. If it is suggested that farm laborers be colonized to cultivate crops for food supplies, I can only ask who is going to do the colonizing, and where are the colonists to come from? The native population will prefer to lead the lives that they have been accustomed to and will be next to impossible to control by foreigners who do not understand their ways. If they are able to earn as much at cultivating beans and farina as they can at cutting rubber, the crops which they grow will not be cheaper than imported food. There are no European peoples who can stand working in the climate of the Amazon valley. Something might be done with coolies, but it is a difficult matter to arrange with the government of British India for their introduction into South America. There has been talk of importing Chinese, but they would likely all turn traders and desert the rubber camps.

"I am convinced, therefore, that for a good while to come the safest way to deal in rubber is through the establishment of trading houses at the principal centers, as at present, and buying such rubber as may reach the market, from whatever source."

In answer to a question as to whether the existing rubber fields on the Amazon were showing indications of becoming exhausted, Mr. Witt said:

"All the fields which yield rubber other than Caucho still seem to produce the usual output. It is probable, however, that in some districts on the lower Amazon the trees have ceased to yield, and the fact that more rubber has been shipped this season from the state of Pará than last season may be due to the fact that the rubber workers have gone into new territory. In some cases, the men may have worked harder, as we call it, forced by the low rubber prices ruling now. The increasing total production of the Amazon valley is due, of course, to the general widening of the district gone over in the search for rubber.

"One thing which indicates that the trees in the districts which have longest been worked are becoming less productive, is a fact that the rate of shrinkage in the Islands rubber received at Pará gradually becomes greater. I remember that in 1885, a shrinkage of 6 per cent. was expected in Islands rubber, and the rate has gradually increased until now a shrinkage of 14 per cent., or even more, is not unusual. And meanwhile there has been no important improvement in means of transportation between the Islands districts and Pará. Evidently, there is a smaller percentage of solid rubber in the milk than when the trees were fresher, and with the same amount of smoking as formerly more moisture is retained in the rubber to be lost during shipment. In other words, while the trees apparently yield as much milk as formerly, the real production of rubber per tree is less."

Mr. Witt spoke of the rapid exhaustion of Caucho in all the districts where the Peruvians went in search of it, and it was his impression that the trade of Iquitos, largely based upon Caucho, was not, for this reason, showing any increase. There was a possibility, however, that with the total exhaustion of Caucho on the upper Amazon—say within the next ten years—the Peruvians might turn their attention to gathering fine rubber, and thus replace in a measure the Caucho trade.

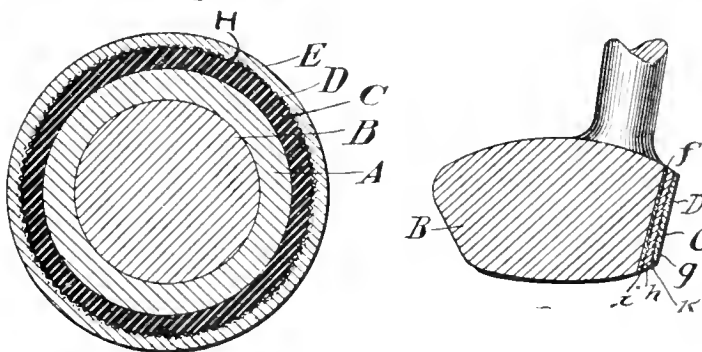
In regard to cable communication between Pará and Manáos, Mr. Witt said that great inconvenience to trade resulted at the latter place from the frequent interruptions. With the constant fluctuations in exchange, there was constant risk in business transactions conducted up the river without a knowledge of conditions at Pará and in rubber markets elsewhere. With adequate cable facilities, he thought that Manáos would become an even more important center of the rubber trade. In such an event, all the rubber from the upper Amazon and its tributaries would naturally find its way to Manáos, even without the aid of such a law as has been put in force for this purpose in the state of Amazonas. It is believed now, however, that the English company owning the cable is making some improvements, and it is possible that such a course will give a much more efficient service.

SAILOR NICKS, known as the champion rope slider of the world, has developed a new use for garden hose. His specialty, by the way, is to slide from a captive balloon, 1500 feet above the earth, down a $1\frac{1}{4}$ inch rope to the ground. In order to do this comfortably, he has a section of garden hose, ten inches long, slit up on one side, which fits snugly over the rope and which he uses as a brake in his long slide to the ground.

NEW GOODS AND SPECIALTIES IN RUBBER.

MR. KEMPSHALL'S GOLF BALL PATENTS.

LATE editions of the *United States Patent Office Gazette* report the issue of 22 more patents, with 218 claims, for golf and other balls—in addition to those mentioned in the last issue of THE INDIA RUBBER WORLD—all assigned to the Kempshall Manufacturing Co. This makes, up to



June 1, the issue of 77 American patents, containing 874 claims, with more to follow. The English patent office is also beginning to publish applications for patents by the same inventors and assigned to the same company. In addition to the ball patents, Mr. Kempshall has invented a golf club with a celluloid and fabric facing, an illustration of which is herewith shown, and for which, if he is consistent, he and his associate, Mr. Richards, will need to take out some 76 more patents with about 863 claims. Another patent which has been issued to Mr. Kempshall, is for a spinning roll, comprising a core, a layer of soft rubber thereon, covered with a shell of celluloid, having fabric embedded in it, which is wrapped around the rubber compressing it tightly, the celluloid shell being held in place by welding.

MELCHERS'S SHOWER YOKE.

THIS has been referred to as a perfect portable shower bath appliance. It provides complete regulation of temperature (cold, warm, or hot) and pressure; it showers the whole body at once, forcing a simultaneous reaction—a sanitary and exhilarating

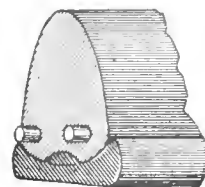


necessity after the tub bath. The yoke is made of fine brass, nickel plated, and the connections are first quality Pará rub-

ber. It is supplied with either single or double faucet connection [Meilink Manufacturing Co., Toledo, Ohio].

"INTERLOCKING" RUBBER TIRE.

THIS is a new style of solid vehicle tire, mentioned already in THE INDIA RUBBER WORLD as having been patented by W. R. Giddeon. By reference to the illustration it will be seen that in the tire there is a longitudinal depression in the center, with a corresponding ridge in the steel channel, to which it is snugly fitted. This formation is referred to as causing the rubber to hug the steel ring so securely that, when properly set, it cannot be removed without the aid of tools. For the same reason the tire will not creep. On account of the channel edges being about $\frac{1}{4}$ inch lower than those supplied with other tires, the "Interlocking" has a larger wearing surface, and thus will wear longer before the bearing comes to the steel rim and makes re-rubbing necessary. This tire is controlled by The Southern Rubber Tire Co. (Knoxville, Tennessee), for whom it is manufactured by The Combination Rubber and Belting Co. (Bloomfield, New Jersey).



AMERICAN MADE "SOLAR" AUTO-HORNS.

AUTO-HORNS or "squawkers" have already been described in this department, but they were of foreign manufacture. On this page illustrations are presented of two styles of a horn manufactured in the United States, in an effort to produce the equal of any of the imported French horns. These horns are constructed of a special quality of brass, and are handsome in design and finish; they give a penetrating and noisy note; are quick to act and respond; and are provided with a clamp that which will admit attaching wherever desired. A point of special interest in this connection relates to the rubber attachment



DIAMETER OF BELL
HORN 4 INCHES.

DIAMETER OF BELL
HORN 5 1/4 INCHES.

of these horns, in relation to which manufacturers advise THE INDIA RUBBER WORLD: "During the past year we have spent considerable amounts of money trying to get American rubber

bulbs equally as good as the imported ones. Three different manufacturers in this country have given up the job. We have just within the last 30 days succeeded in getting a bulb of American make, which in our tests answer the purpose, and by the next automobile shows, held in the coming winter, we shall have a large and varied assortment of horns in different sizes for the market." [The Badger Brass Manufacturing Co., Kenosha, Wisconsin.]

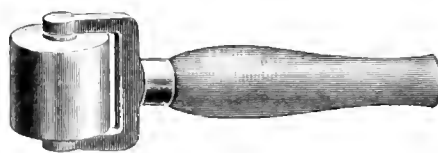
SOMETHING NEW IN CRUTCH TIPS.

SEVERAL cuts shown on this page illustrate various applications of a new feature in the construction of crutch tips, on the principle of adding to their durability through the use of a friction plug. This plug is made of cotton duck or fabric, and cut in such a way that the wear always comes on the end of the thread, thus avoiding any possibility of unraveling. The fabric is thoroughly coated or frictioned with rubber, so that it adheres firmly and becomes a part of the tip when molded. As is well known such fabric is more durable as a wearing surface than rubber, and consequently, by the use of this friction plug, the wearing quality of the tip is greatly increased. This idea in crutch tips is covered by patents granted in March last, since which time the friction plug has been adapted to practically all the various styles of rubber crutch tips, and with a marked degree of satisfaction to the user. While the duck is used for friction purposes, the remainder of the tip requires to be made of good quality rubber, in order to get the benefit of the elasticity and prove soft and easy to the wearer. The retail price of crutch tips made with the friction plug is somewhat higher than other tips, but, considering the increased durability, the new style may prove cheaper in the end. Fig. 1 illustrates the solid screw crutch tips with friction plug, which are made in three sizes. Fig. 2 shows the socket friction plug crutch tip, which is made in five sizes, and Fig. 3 a sectional view of the interior construction. Fig. 4 shows the Whittemore style of friction plug crutch tip, made in four sizes. [The Elastic Tip Co., No. 370 Atlantic avenue, Boston, Massachusetts.]

==There have been described of late in this paper, rubber heels, horse shoe pads, and even vehicle tires, involving similar uses of friction fabrics, showing the popularity of such materials for resisting wear.

RUBBER HAND ROLLERS.

WHEREVER rubber goods are made up—that is, with different parts either of rubber alone or fabric and rubber—the hand



roller is found to be a necessity. Its use is both to set the surfaces closer together, and, incidentally, to drive out air and prevent blistering during vulcanization. These rollers are made in various sizes and used by the thousand in the manufacture of air goods, clothing, sundries, mechanical goods, and boots and shoes. One of them, in fact, forms a part of each boot or shoe maker's "kit," and is frequently the private property of the user. Not every machine shop can suit the needs of the workers in this particular. Hence the cut herewith, which shows a roller that is, perhaps, used more than any other. [Hodgson & Pettis Manufacturing Co., New Haven, Connecticut.]

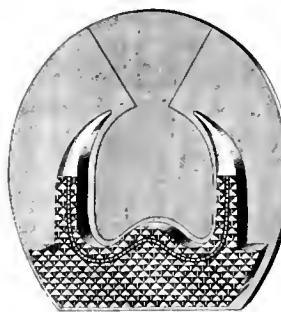
THE VIDETO CUSHION HEEL.

THE rubber body of this heel is attached to a leather lift, which renders it unnecessary for the repairer to use cement or to level the old heel. All that is required is to remove the leather heel of the shoe down to the heel seat, and attach the Videto heel with the required number of nails, shaving the leather edge, which completes the task. This heel is so constructed that it forms an air cushion, which feature tends to prevent slipping. The top piece of leather, $\frac{1}{8}$ inch thick, enables the rest of the heel to be made of rubber throughout. There are no cavities in the heel surface to collect and carry dirt. With women's heels is supplied an extra leather lift, which may be used or not as desired, thus filling the requirements of a high or low heel. [Lincoln Rubber Co., Albany building, Boston, Massachusetts.]



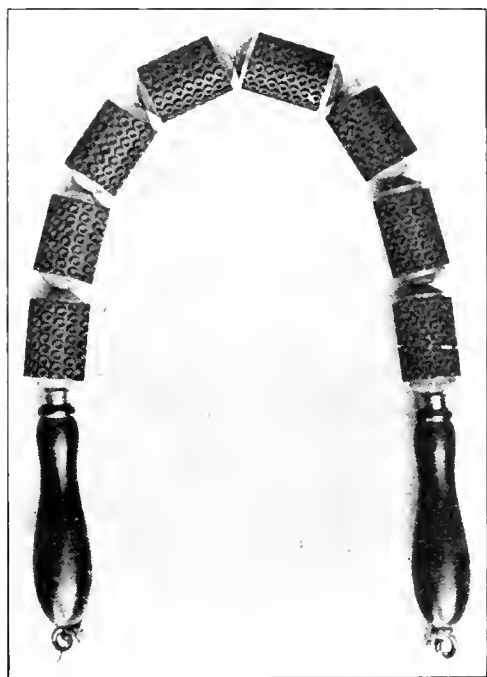
THE "UNION" HORSESHOE PAD.

A RUBBER horseshoe pad has been constructed with aluminum points, with the purpose that they shall not wear smooth, thus preventing the horse from slipping. The experience with some pads has been that as the corrugation wears off the pad, the horse will slip on asphalt, making it more dangerous for a horse than if he had no pad at all. With the new pads, however, it is stated that as soon as the corrugation commences to wear off there is a new corrugation that constantly takes its place, thus preventing any slipping. Another recommendation of the new pad is that the rubber compound is especially adapted for durability. The new pads are made in two styles, designated as the "Union Bar" and "Delaware Full" pads, the first of which is illustrated in the accompanying cut. By the use of a special design, these pads can be used for either the front foot or hind foot, so that the blacksmith is not obliged to carry so extensive a stock as otherwise would be necessary [Delaware Rubber Co., No. 244 Market street, Philadelphia, Pennsylvania.]

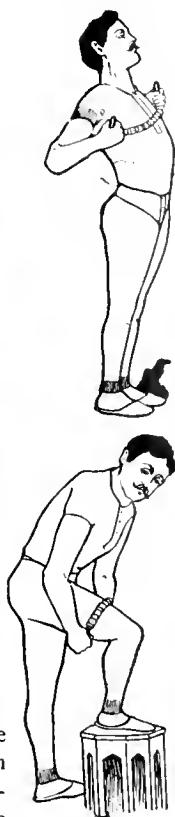


BAILEY'S RUBBER MASSAGE ROLLER.

THE growing disposition of physicians all over the world to recognize the value of the massage treatment for many ailments



upon which drugs has no effect, has led to the production of many appliances for use in such treatment. One of the latest of these is illustrated in an accompanying engraving. It can be used by any person without assistance and is designed to give all the effects that any *masseur* gives, with addition of the electrical effect caused by the friction of the roller over the body. Besides the illustration of Bailey's patented rubber massage roller, some illustrations are given of the various positions of the body in which this device is applied for the treatment of the various muscles for different purposes. This list might be extended almost indefinitely. This article retails at \$2. [C. J. Bailey & Co., Boston, Massachusetts.]



GERMAN PRICES OF RUBBER SCRAP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your edition of May 1, I noticed a report of an agent for rubber scrap in Boston, who states that rubber goloshes have been sold in Germany, at a price equal to 7 cents per pound c.i.f. I am confident that this agent's principals misinformed him on the price of what the German manufacturers are paying for rubber boots and shoes.

I have a statement from one of the largest manufacturers of reclaimed rubber in Germany, who told me in the early part of April that he was buying goloshes at a price equal to 5½ cents per pound, delivered at his factory, and as there are only three reclaimers of rubber boots and shoes in Europe, outside of Russia, I feel confident that the price which the manufacturers in Germany claim that they are buying for are right.

The American manufacturers of reclaimed rubber, to my mind, make a big mistake in buying through agents and paying for their scrap by letter of credit. Were they to stand out they could certainly have their material shipped to them on a basis of from 75 to 90 per cent., sight draft, attached bill of lading.

The large dealers in Europe do not take into consideration the price of crude rubber, on which the value of scrap is based, and if the reclaimers of America would keep the dealers posted as to the value of crude rubber, it would certainly help to keep the price of rubber scrap down, which is no doubt too high, based on the present value of crude rubber.

The reclaimers should certainly not make any allowance for tare. I think this would be a matter for the Reclaimers Association in America to look into.

T. O. N.

London, May 24, 1902.

NEW TRADE PUBLICATIONS.

THE BEACON FALLS RUBBER SHOE CO. (Beacon Falls, Connecticut) have issued a catalogue and price list of Fine Rubber Boots and Shoes for 1902, which is conveniently arranged on larger pages than most of the rubber shoe catalogues, and is neatly printed and well illustrated. Several pages are devoted to "Combinations," of which the company make a large variety. [4¼"×8¾". 68 pages.]

MASSACHUSETTS CHEMICAL CO. (No. 200 Summer street, Boston, Massachusetts) issue two booklets: (1) "What About Tape?" devoted to the quality and method of manufacture of their "Electric" tape, and (2) "How to Insulate an Armature," devoted to their "Armalac" compound, tape, and field coil duck—preparations especially adapted for electrical repairs.

NEW YORK BELTING AND PACKING CO., LIMITED (New York) issue a new catalogue of Garden Hose, in which they emphasize the fact that the various grades described and illustrated are not new, but have been known to the trade for so many years as to have gained a thoroughly established reputation for quality. [3½"×5¾". 12 pages.]

DAVIDSON RUBBER CO. (Boston, Massachusetts) issue a general catalogue of Druggists', Surgical, and Stationers' Goods, in hard and soft rubber [3¾"×8¾". 96 pages] and a separate catalogue of Family Goods in rubber, including the lines of Druggists' sundries in most general use. [5"×6¾". 46 pages.] Both catalogues are adequately illustrated. The company have also sent us a number of circulars, each describing one of their specialties.

JAMES BOYD & BROTHER (No. 14 North Fourth street, Philadelphia) issue their Catalogue No. 8 of mechanical rubber goods, which is larger and more complete than their previous editions. The catalogue is devoted more especially to Fire Department Supplies, and on the title page it is stated that the firm are selling agents for The Boston Belting Co. and Eureka Fire Hose Co., in addition to some firms making other fire department supplies than rubber. [5¾"×7¾". 128 pages.]

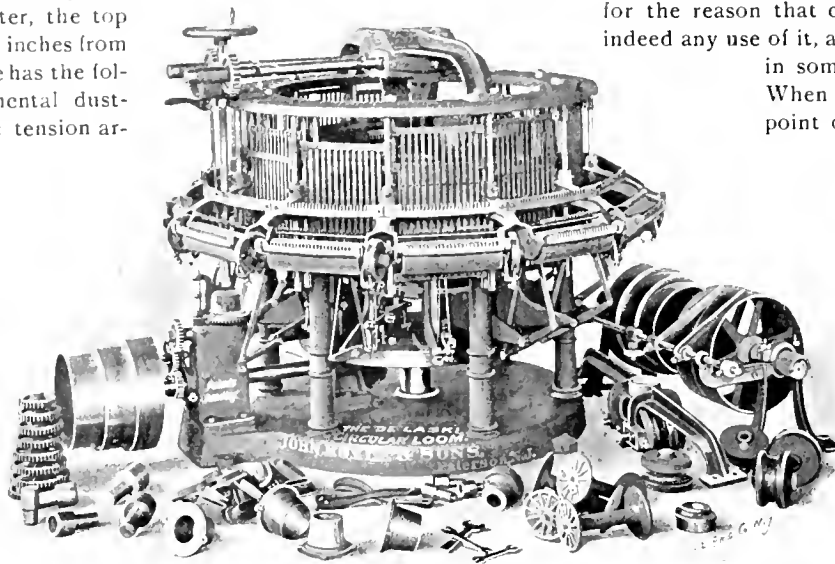
RUBBER FLUX.

A VERY interesting and cheap substitute for India-rubber has for some time past been quietly introduced in the trade under the above name. It is called a flux, for the reason that it seems to have the faculty of welding together various grades of crude rubber and reclaimed rubber, and also helping them to carry more compound. This Rubber Flux is of dark color, is a neutral body, and not only prevents oxidization, but does away with a bloom in rubber goods to a marked degree. It is said to be preferable to palm oil, because it does not escape during vulcanization. Samples of reclaimed rubber with a small percentage of the Flux mixed with it demonstrate that the elasticity is much increased, that the reclaimed rubber is softer, more pliable, and more capable of taking in compound. Mixed with Pontianak, it keeps the latter from oxidizing.

NEW RUBBER FACTORY EQUIPMENT.

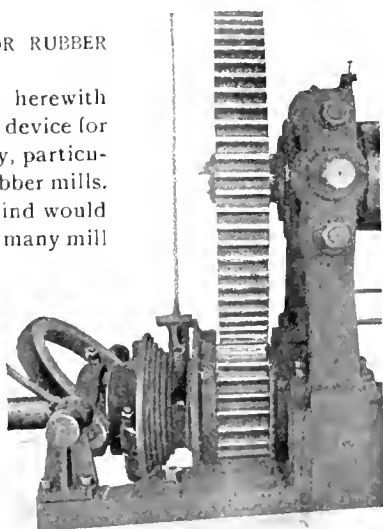
THE DE LASKI CIRCULAR LOOM.

THE machine illustrated herewith is the result of many years' practical experience in the building of machinery for circular weaving for fabric covered hose, cables, and the like, and is really a marvel of economic and practical construction. The space occupied by it is a circle 4 feet 7 inches in diameter, the top ring plate being 3 feet 2 inches from the floor. The machine has the following features: Segmental dust-proof covers, automatic tension arrangements controlling each individual thread, and positive gear-driving mechanism, the latter insuring absolute correspondence between the shuttle and warp motions, the same being true of the take-off attachments. The cylindrical rolls between the fabrics that are drawn off are operated by cut gears. Further advantages are that the working parts of the machine are near the floor; the two shuttles hold three pounds of yarn each, and the warp is taken directly from individual spools placed on "A" shaped creels located below the floor. All sizes of tubular fabric, from $\frac{1}{2}$ inch to $3\frac{1}{2}$ inches, triple jacket, can be woven by this machine, and it is further adapted to weaving covering for solid cores, electrical cables, air compressor hose, etc. The loom runs from 69 up to 100 revolutions per minute, depending upon the size of the fabric woven. It turns from 500 to 1000 feet of finished fabric every ten hours. The weight of the loom completed is 2,000 pounds. It is manufactured by John Royle & Sons, Paterson, New Jersey.



A NEW SAFETY STOP FOR RUBBER MILLS.

THE two illustrations herewith relate to a new automatic device for stopping heavy machinery, particularly adapted for use in rubber mills. A safety device of this kind would seem to be something that many mill men have felt the necessity for, and there are few of long experience but can recall numerous instances where, had their mills been equipped with some such arrangement, it would have saved life or limb, or perhaps thousands of dollars at the end of a vexatious damage suit,



CLUTCH BEFORE BEING PUT IN OPERATION.

to say nothing of the loss from breakage when heroic measures have had to be adopted to save a workman who was caught in the rolls.

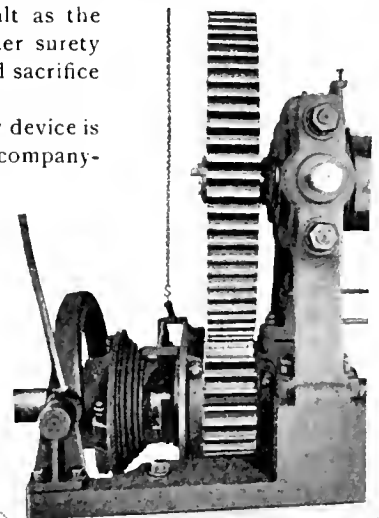
A positive stop motion is not new. It has been used by leading rubber machinery makers for years, but heretofore the device has been of a character not to commend itself to the user for the reason that careless handling of it, or indeed any use of it, almost invariably resulted in some expensive breakage. When a mill is loaded at the point of consuming the greatest

amount of power, is just the time that the necessity for a sudden stop to prevent accident is more likely to occur. Then a sudden strain, the whole 20 H.P. or more, as the case may be, is thrown on to the clutch and shaft running at say 75 revolutions, making a tremendous shock, from which something must give way.

A 5-inch shaft has been known to bend enough from just such a shock to completely defeat the purpose of the so-called "safety clutch," permitting the rolls to continue revolving. The danger of some injury to the mill by use of this arrangement is so well understood that few superintendents or master mechanics will have them anyway, and those who do will not permit an operator to meddle with them except in the case of threatened serious accident.

To overcome the objection to the old form of positive stop motion, this new safety stop device was designed, the aim being to accomplish the same thing and avoid the shock, obtaining practically the same result as the friction clutch, with greater surety and at much less cost and sacrifice of space on the shaft.

The character of the new device is so well illustrated in the accompanying cuts that a brief description only will be necessary. It consists of very much the usual form of clutch pinion and clutch, the latter made with a helical shoulder on the face. A steel dog is held in suspension by a latch, to which is attached a light chain carried over the mill, with a handle or pull at the end, located directly over the middle



CLUTCH AFTER ITS WORK HAS BEEN ALMOST COMPLETED.

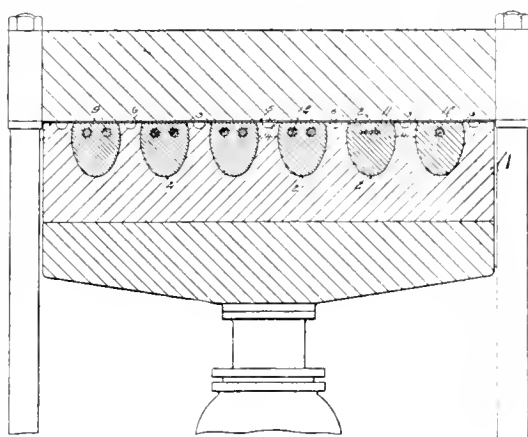
of the rolls, within easy reach of the operator, or in the place of the chain and handle some other plan for operating latch and handle, such as a bar placed across the tops of the roll frames. With a slight pull on the chain, the latch releases the dog, which in turn drops into the opening between the helical shoulders on the clutch and the flange on the pinion, and, forcing them apart, stops the rolls within two or three revolutions of the shaft. As the speed of the shaft is so much greater than the rolls, the latter come to an almost instantaneous stop. This form of clutch can be readily applied to old as well as new mills and adapted to any form of bedplate, and, as a rule, does not require any more room on the shaft than the old style.

The patent for "Automatic Stop for Heavy Machinery" was issued to Frank H. Brewster, April 23, 1901, and assigned to the Birmingham Iron Foundry (Derby, Connecticut). This company, besides single orders for trial, have a contract to equip one of the largest rubber factories in the United States, having about fifty mills, and have also just completed a new plant of about thirty mills, entirely fitted with this safety stop. Another illustration appears in the advertisement of the firm named, elsewhere in this paper.

NEW PROCESS FOR MAKING SOLID RUBBER TIRES.

ALBERT T. HOLT, superintendent of The Victor Rubber Co. (Springfield, Ohio), has just been allowed a patent for a process in the man-

ufacture of solid rubber tires, which promises exceedingly well. Described in brief, a press is made, a trifle longer than the tire would be when laid out straight. This press is provided



with a series of mold cavities running parallel to each other, the length of the lower platen. Each of these has the shape of a complete tire, which would mean that the widest point lies below the upper surface of the platen, forming a mold open at the ends and having a relatively constricted mouth at the upper surface. It will be seen that it would be difficult to withdraw such tires after vulcanization from a mold shaped in this way. The tires are covered with a sheet of canvas which is interposed between the mold and the upper platen, and the whole vulcanized together. After curing, the upper platen is raised and a slight pull on the canvas compresses the wider portions of the tires, allowing them to be withdrawn from the mold very easily. The tires are then cut apart along the edge of the base of the tires.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED MAY 6, 1902.

- N**O. 699,143. Horse collar. Edwin L. Brundage, East Orange, New Jersey.
 699,297. Heel cushion. Otto Eick, Baltimore, Maryland.
 699,373. Soft tread horseshoe. Orion E. Dyson, Chicago, Illinois.
 699,383. Insulating composition and method of producing same. Adolf Gentzsch, Vienna, Austria.

- 699,401. Exercising device. William F. Lott, East Orange, New Jersey.
 699,549. Cushioning device for boots or shoes. Frank P. Macintyre, Philadelphia, Pennsylvania.
 699,562. Rubber boot or shoe. Joseph L. Perry, Auburn, Rhode Island.
 699,568. Heel for boots or shoes. John C. Rea, Paterson, New Jersey, assignor of one-half to Robert A. Roe, Paterson.
 699,622. Manufacture of playing balls. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co., a corporation of New Jersey.
 699,623. Manufacture of Golf Balls. *Same*.
 699,632. Manufacture of golf balls or other articles. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.

Trade Marks.

- 38,218. Rubber boots and shoes. Thomas Crowley, Lambertville, New Jersey.

ISSUED MAY 13, 1902.

- 699,653. Dental vulcanizer. John S. Campbell, London, England.
 699,656. Hose rack. Edward Cliff, Newark, New Jersey, assignor to Cliff & Guibert Co., New York city.
 699,743. Eraser tip for pencils. Willard H. Brownell, Battlecreek, Michigan.
 699,757. Child's teething nipple. William Howell, Brooklyn, New York.
 699,768. Boot or shoe heel. Franklin G. Saylor, Franklin, Massachusetts, assignor to Walter E. Austin, Boston.
 699,778. Water bag. Hubbard H. Upham, New York city.
 699,813. Playing ball. Francis H. Richards, Hartford, Conn., assignor to the Kempshall Manufacturing Co.
 699,876. Golf ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
 699,931. Eraser. Eric Swensson, Chicago, Illinois.
 700,123. Playing ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
 700,124. Playing ball. *Same*.
 700,125. Spinning roll. Eleazer Kempshall, Boston, Massachusetts.
 700,144. Golf ball. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
 700,154. Manufacture of golf balls. Francis H. Richards, Hartford, Conn., assignor to the Kempshall Manufacturing Co.
 700,155. Manufacture of golf balls. *Same*.

ISSUED MAY 20, 1902.

- 700,655. Manufacture of golf balls. Eleazer Kempshall, Boston, assignor to the Kempshall Manufacturing Co.
 700,656. Shell blank for playing balls. *Same*.
 700,657. Manufacture of golf balls. *Same*.
 700,658. Playing ball. *Same*.
 700,659. Manufacture of playing balls. *Same*.
 700,660. Golf ball. *Same*.
 700,667. Horseshoe. Anthony M. Meisner, Chicago, Illinois.

Trade Marks.

- 38,317. Vehicle tires. New York Belting and Packing Co., Limited, New York city.

ISSUED MAY 27, 1902.

- 700,837. Solid rubber vehicle tire. Frank A. Seiberling, Akron, Ohio.
 700,838. Atomizer. Cyrus J. Seltzer, Philadelphia, Pennsylvania, assignor to the Davidson Rubber Co., Boston.
 700,840. Pneumatic tire. Enos Smith, Vernham Dean, near Hungerford, England, assignor to John Smith, Troy, New York, and Henry Smith, New York city.
 700,871. Rubber tire setting machine. John K. Williams, Akron, Ohio.
 700,942. Playing ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
 700,943. Golf ball. *Same*.
 700,944. Playing ball. *Same*.
 700,945. Golf ball. *Same*.
 701,124. Vaginal syringe. Charles F. Allen, Hueneme, California.
 701,254. Billiard table cushion. Moses Bensinger, Chicago, Ill., assignor to the Brunswick-Balke-Collender Co.

Trade Marks.

- 39,332. Rubber footwear. Foot, Schulze & Co., St. Paul, Minnesota.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at ten cents each, postpaid.]

THE ENGLISH PATENT RECORD.

[* *D. notes Applications from the United States.*]

APPLICATIONS—1902.

- 7,126. Tom Griffin Richards, 18, Fulham place, Paddington, London. Improvements in India-rubber capped black lead pencils. March 24.
- 7,239. George E. Palmer, Thomas A. Palmer, and Lewis G. Edmund, Old Coach Works, Gower street, Swansea. Vehicle nave brake for rubber tired wheels. March 25.
- 7,305. John Hunter Clark, 133A, Argyle street, Glasgow. Improvements in rims and rubber tires for cycle and other wheels. March 26.
- 7,346. Talbot Spencer, 53, Clare road, Cardiff. Rubber and leather heel for boots and shoes. March 26.
- 7,389. George Edward Heyl-Dia, 6, Lord street, Liverpool. Pneumatic tires. March 26.
- 7,526. Outer covers for pneumatic tires. March 29.
- 7,543. Harry Jackson, 36, Temple street, Birmingham. Pneumatic tires. March 29.
- 7,587. Frederic Delpoux and Hippolyte Josephe La Force, 322, High Holborn, London. Method of attaching India-rubber to wheels. March 29.
- 7,798. Joseph Butler, William Bell, William Andrew Jones, and James Bate, 5, John Dalton street, Manchester. Outer covers of pneumatic tires. April 3.
- *7,935. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in the manufacture of playing balls. April 4.
- 8,005. Theodore Houben, 111, Hatton garden, London. Pneumatic tires. April 5.
- 8,145. Albert James Astbury, Oakdene, Barnt Green, Worcestershire. Pneumatic tires for motor cars. April 8.
- 8,305. Charles Davies, 6, Lord street, Liverpool. Pneumatic tires. April 9.
- *8,406. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in golf balls. April 10.
- *8,407. Francis Henry Richards, 19, Holborn viaduct, London. Improvements in the manufacture of playing balls. April 10.
- *8,408. Francis Henry Richards, 19, Holborn viaduct, London. *Same*. April 10.
- *8,409. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in golf balls and the like. April 10.
- *8,410. Francis Henry Richards, 19, Holborn viaduct, London. Improvements in golf balls and the like. April 10.
- 8,506. Alfred Ducasble, 18, Southampton buildings, Chancery lane, London. Cellular rubber tires. April 11.
- 8,541. John Alexander George Ross, Newcastle-on-Tyne. Rubber and eraser tips, with and without holders. April 12.
- 8,707. Charles Douglas Cassidy, 16, Clare street, Dublin. Detachable tread and shield combined for pneumatic tires, air tubes, and covers for same. April 15.
- *8,739. Alfred Julius Boulton, 111, Hatton garden, London. Improvement in type-curing or vulcanizing presses. [Arthur Hudson Marks, United States.] April 15.
- *8,802. Francis Henry Richards, 19, Holborn viaduct, London. Improvements in playing balls. April 15.
- *8,803. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in golf balls. April 15.
- *8,804. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 15.
- 8,847. Thomas Belvoir, 82, Mark lane, London. Elastic exercising apparatus for physical culture. April 16.
- 8,868. John Russell Brunt and Richard Charles Pitt, 45, Southampton buildings, Chancery lane, London. Pneumatic tires. April 16.
- *8,982. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in golf balls. April 17.
- *8,983. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 17.
- *8,984. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 17, 1902.
- *8,985. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 17.
- 9,009. John Cockburn, 32, St. Vincent street, Glasgow. Wheel rims and rubber tires for vehicles. April 18.
- 9,055. Thomas Henry Vercoe, 19, Southampton buildings, Chancery lane, London. Puncture resisting device for pneumatic tires. April 18.
- *9,240. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in golf balls. April 22.

- *9,241. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 22.
- *9,242. Eleazer Kempshall, 19, Holborn viaduct, London. Improvement in the process of making golf balls. April 22.
- *9,243. Eleazer Kempshall, 19, Holborn viaduct, London. *Same*. April 22.
- 9,650. Edward Blundell, 4, High street, Wem, Shropshire. Liquid patching tire cement. April 26.
- 9,654. Frederick William Mitchell, 121, Elgin road, Seven Kings, Essex. Enema syringe. April 26.
- 9,698. Frederick William Ingram, 23, Southampton buildings, Chancery lane, London. Valve for footballs, pneumatic tires and the like. April 26.

PATENTS GRANTED.—1901.

- 22,292. Method of attaching rubber tire to rim. Williams, W. F., 4, Denman street, Piccadilly circus, London. December 7, 1901.
- 22,384. Diving dress. Sprang, F. H., 86, Grange road, Bermondsey, London. December 8, 1901.
- 22,427. Method of attaching rubber tire to rim. Barber, J., 36, Glebe street, Turncroft Lane, Stockport, Cheshire. December 10, 1901.
- 22,710. Inflators for tires. Hulme, F., 35 Seymour Grove, Old Trafford, Manchester. December 13, 1901.
- 22,739. Inflating. Rupp, P., Ellwangen, Wurtemberg, Germany. December 13, 1901.
- *22,864. Pneumatic tire. Barrows, W. A., No. 491, Wells street, and Sanford, N., No. 1450 Newport avenue, Chicago, United States. December 14, 1901.
- 22,936. Pneumatic tires. Shone, W., Upton park, Chester. December 15, 1901.
- 23,050. Manufacture of rubber tires or other articles by successive vulcanization. Falconnet, H., and Perodeaud, M., Choisy-le-Roi, France. December 17, 1901.
- 23,058. Pneumatic tires. Jackson, E. G., Oakfield, Quernmore road, Stroud green, London. December 17, 1901.
- 23,063. Exercising apparatus. Oberst, A., 6 Colonnenstrasse, Schoneberg, near Berlin. December 17, 1901.
- 23,210. Pneumatic tire cover. Foin, A., Vernon (Eure), France. December 19, 1901.
- 23,529. Pneumatic tire. Black, A., 32, St. James' street, London. December 22, 1901.
- 23,568. Pneumatic tire. Lyon, S. G. R., 91, Kennington road, London. December 24, 1901.
- *23,603. Gutta-percha substitutes. Boulton, A. J., 111 Hatton garden, London. [Ralli, P. C.; Mayer, H., and Toch, L.; New York, United States.] December 24, 1901.
- *23,607. Rubber tire and method of attaching. Lake, H. H., 45, Southampton buildings, London. [Turner, F. H.; Hartford, Connecticut, United States.] December 24, 1901.
- *23,666. Rubber tire. Leach, O. L., No. 102 Prairie avenue, Providence, Rhode Island, United States. December 27, 1901.
- 23,713. Cutting rubber washers. Pfister, V., 12, Anderson road, Erdington and Byrne, F. A., Calthorpe House, Gravelly hill, Birmingham. December 28, 1901.
- 23,751. Puncture proof pneumatic tire. Boulton, A. J., 111, Hatton garden, London. [Granara, A.; Genes, Italy.] December 28, 1901.
- 23,752. Puncture proof pneumatic tire. Boulton, A. J., 111, Hatton garden, London. December 28, 1901.
- 23,770. Pneumatic tire. Seddon, F. J., 846 Rochdale road, Harpurhey, Manchester, and Seddon, E. H., Woodbourne, Brooklands, Cheshire. December 29, 1901.

PATENTS GRANTED.—1902.

50. India-rubber compositions. Weber, C. O., Heathfield, Middleton road, Crumpsall, near Manchester, and Cairns, A., Winterdyne, Uddingston, near Glasgow. January 1, 1902.
253. Pneumatic tires. Tolson, J. E., Meadow House, Dewsbury, Yorkshire. January 4, 1902.
- *260. India-rubber valves. Pickett, E. F., 12, Bessie Place, Buffalo, New York, United States. January 4, 1902.
- *327. Pneumatic tires. Boulton, A. J., 111, Hatton garden, London. [Marks, A. H.; Akron, Ohio, United States.] January 5, 1902.
- *396. Tubular lining for pneumatic tire. Ives, J. F., Cleveland, Ohio, and Gammeter, J. R., and Palmer, T. R., Erie, Pennsylvania, United States. January 7, 1902.
473. Method of attaching rubber tire to rim. Evans, A. E., Ararat, House, Newport, Shropshire. January 8, 1902.
- *480. Exercising apparatus. Lake, H. H., 45, Southampton buildings, London. [Korth, J. C.; Harrison, New York, United States.] January 8, 1902.

DESTRUCTION OF GUTTA TREES IN MINANDAO.

IN regard to the order issued by the Forestry bureau in the Philippines, against the cutting down of Gutta-percha and Rubber trees, Frank J. Dunleavy, writing to THE INDIA RUBBER WORLD from Cattobato, May 1, stated that it continued to be ignored. From October, 1901, to March 15, there had been 259,483 pounds of Gutta-percha and Rubber exported from Cattobato—estimated from the duties collected there for the Forestry bureau. The local office had been in charge of a native Filipino, who had grown rich in a few months, on a small salary, through “undervaluing the products, much to the joy and profit of the ‘Chinos’ [traders] and himself.” After the visit of a forestry inspector a better valuation was made. The government is now collecting about 1500 pesos [Mexican dollars] a month on Gutta-percha, “and every peso represents the destruction of 8 to 10 trees, or say 12,000 trees a month.”

Some of these trees, according to Mr. Dunleavy, are Balata [?] yielding up to 25 pounds, but the yield generally averages about 3 pounds. “I have seen large trees on the ground that had been felled for months, and on striking the trunk with a bolo, latex flowed out”—which would indicate very incomplete extraction in the first place.

Mr. Dunleavy had made two trips across the island of Minandao, prospecting for Gutta-percha. The mountain tribesmen cut down the trees under the direction of the Moros. The latter make a pretence of buying the Gutta-percha, giving a yard or two of gay colored cotton cloth—worth not more than 20 cents—for perhaps 20 pounds of Gutta. At the coast it is sold to a Chinese trader for \$20 or \$30 [Mexican], in cloth, per pikul [137½ pounds], or about 7½ to 11¼ cents a pound, gold. The Gutta further changes hands at Cattobato, and again at Singapore, each time at a good profit to the “Chinos.” One Moro “datto” [leader] has five wives, three of whom belong to as many different mountain tribes, and who influence their people to bring Gutta-percha to their datto. An example of this Moro’s trading was his securing 214 pounds of Gutta-percha from ten men brought in by his wives, for goods worth probably \$9 [Mexican], or hardly more than 2 cents, gold, a pound. The Moros have spread over the Gutta-percha districts, encouraging the local tribesmen to neglect growing food to collect Gutta, until the latter have become practically dependent on the Moros. The latter care only for the largest immediate profit possible, and under their influence the destruction of trees above referred to progresses steadily.

A Monabo whom our correspondent invited to accompany him as a guide, said that he did not dare to go outside the district, since he owed the head Moro 20 cents [Mexican], and that if it was not paid within a certain time it would grow to 40 cents, and then to 80, and then, perhaps, so large that he could never get out of debt, and would thus be practically owned by his creditor for life. The only remedy for such conditions, says Mr. Dunleavy, is for the Philippine government to appoint a resident official to look after these people, who are kindly, honest, hardworking, and worth attention.

At Lintago it was found that Gutta, such as would bring \$80 [Mexican] a pikul at Cattobato, was being bought from the Subano and Montes tribes for \$12 to \$15, paid in cotton cloth. Mr. Dunleavy was the first white man ever seen at some of the places he visited, and the natives had no idea of the real value of the Gutta they had been induced to gather.

“I have had many inquiries from the United States,” writes Mr. Dunleavy, “in regard to chances for trading in Gutta-percha and Rubber on this island. But as the Forestry bureau makes no attempt to enforce the law regulating the gathering of these products, I can only see a poor future for Americans in this trade under present conditions. Let the Forestry bureau either say that trees shall not be cut down, and enforce the laws, or say ‘Cut the trees and get their product!’ Then an American entering the trade would know where he stood, and if the policy of destruction should be adopted, a future supply of Gutta-percha could be assured by planting.”

GUTTA-PERCHA IN GERMAN NEW GUINEA.

THE reported discovery of Gutta-percha in New Guinea, by Herr Rudolf Schlechter, representing the German colonial committee, has already been mentioned in THE INDIA RUBBER WORLD [May 1, 1902—page 255]. In *Der Tropenpflanzer* (Berlin) Herr Schlechter reports his investigations in detail. Leaving Stephansort, on the north coast of Kaiser Wilhelm Land—the German section of New Guinea—his party spent several days in travel through dense swamps, toward the Bismarck mountains. Near the Goldfields station, at an altitude of 400 meters, they found Gutta-percha of good quality. They felled some large trees, which Herr Schlechter identified as a species of *Palauquium* (*Dichopsis*), the product being equal to, if not identical with, the product known to the Malays as “getah taban merak,” and belonging to the best type of Gutta-percha. The material found had the same reddish tinge as that seen in Perak. “The influence which this new discovery,” writes Herr Schlechter, “if properly exploited, will lend to the development of New Guinea is inevitable. We have in this, discovered the first merchantable product of New Guinea. The treasure will now prove of still greater value, as all the other Gutta lands, all situated west of Borneo, are from year to year essentially diminishing in their quota of the better class of Gutta.” Herr Schlechter is convinced that the *Palauquium* species is plentiful in the region visited by him. He reports also the discovery of India-rubber, but this had already been known to exist in the British possessions in New Guinea, whence, indeed, some rubber has been exported, though not so much now as formerly.

MENDE'S VACUUM DRYING CHAMBERS.

THE advantages of drying material of all kind in vacuum chambers are so thoroughly established that they hardly need comment. It may interest those, however, who are considering the installation of such systems, to review the following points in favor of the Mende system. First, materials which suffer from heat and from the oxidizing action of the atmosphere are in no wise injured by this method, as the heat is low and air is not present. Second, the time of drying is reduced from weeks or days to a few hours. Third, valuable solvents can easily be reclaimed and used again. Fourth, the space occupied by the apparatus is very small, while the daily drying capacity of the chambers is very large. Fifth, the consumption of steam is a mere nothing, while the first cost of vacuum drying machinery is soon made up by economies that it effects. These chambers are constructed of steel or iron and can be coated and protected against any kinds of vapors. They are made either stationary or rotary, in sizes to suit convenience.

THE EDITOR'S BOOK TABLE.

COMPRESSED AIR, ITS PRODUCTION, USES, AND APPLICATIONS, comprising the Physical Properties of Air, from a Vacuum to its Liquid State, its Thermodynamics, Compression, Transmission, and Uses as a Motive Power. By Gardner D. Hiscox, M. E. New York: Norman W. Henley & Co., 1901. (Cloth, 8vo., pp 822. Price, \$5.)

THIS work is not only the most comprehensive, but it is practically the first, devoted to the commercial uses of compressed air, especially in its application to the mechanical arts, outside of occasional papers presented to engineering societies or special articles in various technical journals. While the use of air in its lower condition of compression for power and for mechanical purposes has been known from the earliest ages, the results of the development in this field during the past few decades have well nigh revolutionized some branches of engineering, and greatly facilitated the reduction of cost of mechanical work in many important departments.

The author of this work appears to have devoted many years to the collection of the material which he has condensed within it, while filling an editorial position. The result of such deliberate preparation is to be found in a concise, readily comprehensible style, and the arrangement of the chapters in such sequence as to prove most convenient for the student of his subject, or for him who uses the work only as a book of reference.

This volume contains forty air tables, involving calculations of use in arranging for the compression of air, as well as for the utilization of its countless applications. There are also no fewer than 545 illustrations, including both compressors and pneumatic tools, indicating the application of compressed air to almost every conceivable industrial purpose. It will prove of interest to rubber manufacturers to know how many various forms of pneumatic tools there are, the utility of which depends upon the employment of rubber hose for the transmission of the air.

This new demand for hose, by the way, has resulted in the necessity for hose capable of meeting new requirements, and has formed an element in the trade of no small importance to the rubber industry. Another important use for rubber hose has occurred in connection with railroad air brakes, and we notice that in the list of patents issued in the United States on compressed air and its appliances, the author has included some pneumatic tires, which form a third important branch of rubber production based upon the modern uses of air.

LES LANDOLPHIÈRES (LIANES A CAOUTCHOUC) DU SENEGAL, DU Soudan, et de la Guinée Française. Par Henri Hua et Aug. Chevalier. Paris: Augustin Challamel. 1901. [Paper, 8vo. Pp. 36. Price, 1.50 francs.]

A STUDY of the rubber species of a district which, while long known to yield rubber, has come lately into a wider commercial importance. [See THE INDIA RUBBER WORLD, November 1, 1901.] The contents of this brochure appeared originally in the *Journal de Botanique* (Paris), in the first four issues of Vol. XV.

EASTERN PERU AND BOLIVIA. BY WILLIAM C. AGLE. SEATTLE: The Homer M. Hill Publishing Co. [1901.] [Paper 12mo. Pp. 48. Price 50 cents.]

A READABLE narrative by an American mining engineer of many years experience in the countries named, with incidental accounts of their mineral and other resources, which he regards as exceeding valuable. In view of the rate of destruction of the Caucho trees, he thinks it would be advisable—and profitable—to form plantations.

OTHER PUBLICATIONS RECEIVED.

INTERSTATE Commerce Commission. Thirteenth Annual Report on the Statistics of Railways in the United States, for the year ending June 30, 1900. Washington: Government Printing Office, 1901. [Cloth. 8vo. 324 pp.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first ten months of the current fiscal year, compared with the same months of three years preceding—not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-March...	\$457,003	\$914,455	\$1,252,572	\$2,624,030
April, 1902...	57,467	25,216	184,527	267,210
Total	\$514,470	\$939,671	\$1,437,099	\$2,891,240
1900 01 ..	448,055	662,971	1,432,124	2,543,150
1899 00	439,220	329,686	1,133,094	1,902,000
1898 99	(a)	214,330	1,194,397	1,408,727

(a) Included in "All Other" prior to July 1, 1899.

Pairs of rubber footwear exported in the same periods:

1898-99.	1899-1900.	1900-01.	1901-02.
393,830	597,614	1,349,063	2,367,611

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.	1901-02.
\$278,438.	\$387,397.	\$364,856.	\$318,711

GREAT BRITAIN.

EXPORTS of rubber manufactures during January-April:

	1900	1901	1902
Boots and shoes	£489,631	£44,539	£41,911
Unenumerated		348,272	356,216
Total	£489,631	£392,811	£398,127

There were also exported during January-April, 1902, "Apparel and slops, waterproofed by any process," to the value of £93,431.—The number of pairs of rubber boots and shoes exported during the first four months of 1902 was 386,988, against 394,092 for the same period in 1901.

DEATH OF GEORGE P. DODGE.

GEORGE POMEROY DODGE, president of the Mineralized Rubber Co. (No. 18 Cliff street, New York), died on June 21, at his home in Great Neck, Long Island, after an illness of only four days, of pneumonia. Born in Pittsfield, Massachusetts, in 1837, Mr. Dodge traced his lineage back on several lines to the first settlers, he being eighth in descent from William Dodge, who came to Salem in 1629. His great-grandfather was General Seth Pomeroy, of the French wars and of Bunker Hill fame. In 1851 his father, N. S. Dodge, went to England as commissioner to the great London Exhibition, and for some years remained abroad with his family. George P. Dodge became interested in the India-rubber industry, being at one time connected with Charles Macintosh & Co., at Manchester. Later he returned to America and established himself as a rubber goods merchant, his business becoming incorporated under the laws of New York state in March, 1886, as the Mineralized Rubber Co. The business will be continued by those who have been most closely connected with Mr. Dodge in its management. The former secretary of the company, John Schreppner, has been elected president, and William A. Dale, who has long been in charge of the order department, becomes secretary. Mr. Dodge's final illness developed very suddenly, he having visited his office as usual as late as Tuesday of the week in which he died on Saturday. The interment occurred on Monday at Great Neck, at which place Mr. Dodge had resided for twenty-five years. The deceased was a brother of Colonel Theodore A. Dodge, who for many years past has also been interested in the rubber trade.

RUBBER MEN AND RUBBER TOPICS.

IT is not often that it falls to the lot of the tourist in Egypt nowadays to get even a single genuine scarab. But Mr. H. C. Corson, of New York, and lately of the Akron Rubber Works, while on the Nile last winter, became the possessor of a bracelet composed of nine genuine scarabs, some of them bearing the inscriptions of Pharaohs antedating the builders of the great pyramids. The scarabs are gems, usually cut in obsidian, in the form of a beetle, engraved with hieroglyphics, each meant to represent one of the many Egyptian deities, and were worn by the ancients as an amulet. Mr. Corson's "find" is a valuable one and lately formed the subject of a page of description by an authority on such subjects, in the *New York Times*.

* * *

IN connection with the inquiry that appeared in a recent issue of THE INDIA RUBBER WORLD for rubber suction cups, Mr. George A. Alden, of Boston, says that he recollects the time, somewhere back about 1867, when there were a number of articles in newspapers, claiming that thieves were purchasing rubber suction cups, attaching them to both hands and feet, thus enabling them to climb up the sides of buildings and enter second story windows in the pursuit of their calling. The incident is an interesting one, although Mr. Alden appears to be sceptical regarding the ability of the thieves to scale brick walls in that manner.

* * *

A SUMMER residence is to be erected for Colonel Harry E. Converse, of the Boston Rubber Shoe Co., at Marion, Massachusetts, which will probably be the largest and finest on the shore of Buzzard's Bay. The house will be located on the picturesque promontory, on the north shore of the bay, known as Charles's Neck, the whole of which has been purchased by Colonel Converse, who has chosen "The Moorings" as the name of his new country seat. The architect for the house and barn is Tristram Griffin, of Boston. It is expected that a year will be required for the completion of the buildings.

* * *

MR. JOHN J. WATSON, JR., of Providence, Rhode Island, who was lately elected assistant treasurer of the United States Rubber Co., is one of the bright young men that Colonel Samuel P. Colt, president of that company, has as business allies and associates. He was formerly in the employ of the Industrial Trust Co., of which Colonel Colt is also president, and was promoted from his position with that concern to the treasurership of the Joseph Banigan Rubber Co. He still retains the latter position, and remains in Providence a day or two every week, devoting the rest of his time to his duties in the office of the United States Rubber Co. in New York.

* * *

WHAT is known as the Hagberg bill, now before the Massachusetts senate, is causing considerable feeling in the city of Worcester. The bill in brief provides that manufacturing corporations in Massachusetts must pay their employes in currency, instead of in checks. This has stirred up the American Steel and Wire Co., so it is said, and it is hinted that its Washburn & Moen plant, in case the bill passes, may be moved from Worcester to some town in the West. Of course, that would mean also the removal of their very large rubber plant, used in the insulation of wire.

* * *

THE following incident may be somewhat apocryphal, but it is nevertheless true to nature, and it would, therefore, be a pity if it remained untold. It seems that about the time Mr. Joseph Banigan was quietly marketing his holdings of United

States Rubber stock, and indeed when he had parted with nearly all of it, a high official entered his private office in great agitation and said: "Mr. Banigan, I understand that you sold most of your stock." "Genial Joseph" drew himself up to his full height of six feet and one, and towering above his questioner replied: "Mr. Blank, I believe that I am at this moment the largest individual stockholder in the United States Rubber Co." The gentleman apologized and retired, whereupon Mr. Banigan turned to a listener and said: "As I weigh nearly 250 pounds I think it is perfectly true that I am the *largest* stockholder."

* * *

EDWARD ATKINSON's work toward the establishment of a school for insurance engineering, in connection with the Massachusetts Institute of Technology, seems about to bear fruit, and it is to be hoped that the \$150,000 to start the work will be soon raised. The way in which this interests rubber manufacturers is in connection with the apparatus that will be installed for the extinguishing of fires, and also the knowledge the new engineers will get of various types of fire hose.

"PARA RUBBER" FROM CEYLON.

CEYLON exported last year 7392 pounds of rubber from cultivated plantations, stocked with the "Pará" variety, which was sold in London at good prices, one lot bringing 4s. 1½d. per pound, against 3s. 9½d. paid for the "best Pará" during the same week. Director Willis, of the royal botanic gardens, in Ceylon, states in his annual report for 1901 that "India-rubber may now be regarded as established as a minor product in the low country. . . . Extension of planting continues in suitable districts, and probably 3000 acres are now in rubber."

An English rubber manufacturer writes to THE INDIA RUBBER WORLD: "We have made several experiments with Ceylon rubber which have turned out fairly satisfactorily. There is little or no difference between it and the Pará obtained from Brazil." What follows, from the same letter, is not so clear, in view of the information already given in regard to prices realized for the Ceylon product: "The difference in price makes it a useful adjunct to the rubber manufacturer's list of economical rubbers, but I do not know whether this information will, in the near future, render it less economical; I hope not."

NOTES FROM PARA.

THE United States consul, Mr. Kenneday, reported, May 7: "Owing to hard times, low prices, and certain unfavorable local conditions, there are various opinions as to whether the steady increase in the output of rubber during the past few years will be maintained in 1902-03. It is generally believed, however, that the rapid development of the new rubber districts on the upper Amazon River and its affluents will more than make up for any falling off from these causes. I am informed that already many large bands of rubber gatherers are organizing, and that preparations on a large scale are being made for harvesting next season's crop."

The contract for the improvements at the port of Pará has been signed by the Brazilian government, and includes the building of a wall in the river, somewhat beyond the end of the present piers, parallel with the shore, for about 1½ miles, the space inshore to be occupied by warehouses and all facilities for loading and unloading vessels, wharves, etc. The channel is to be dredged, so as to admit the dockage of the largest vessels. The amount of the contract is about \$4,250,000 and the time limit ten years.

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER GOODS MANUFACTURING CO.

THE thirteenth regular quarterly dividend of 1½ per cent. on the preferred stock was payable on June 16, to holders of record of June 6, at the offices of Baring, Magoun & Co. (New York), the company's transfer agent. The disbursement amounted to \$140,899.50.—The following changes of officers were made at a meeting of the board on May 28:

President—~~ARTHUR L. KELLEY~~, ALDEN S. SWAN.
Vice President—EUGENE UNDERHILL.
Treasurer—~~ALVAN TROWBRIDGE~~, JAMES B. TAYLOR.
Secretary—WILLIAM A. TOWNER.

Mr. Swan is a merchant and director in several corporations and has been on the board of the Rubber Goods company from the beginning. Mr. Taylor is one of the new directors, and is a member of the stock brokerage firm of Talbot J. Taylor & Co., (New York).

COMBINATION RUBBER AND BELTING CO.

THIS company, since taking charge of the factory at Bloomfield, New Jersey, in March, 1901, has experienced a steady growth in orders, which has made it necessary to extend its buildings and purchase additional machinery. Contracts have been given out for a three story brick building, about 75×200 feet; also for a new machine shop to increase the facilities of the company so that it can make all its own molds and shafts for rolls. There have been ordered a two-plate Farrel hydraulic press, 30×6 feet; several calenders, mills, and grinders of the latest design; hose and belt making machinery; and new engines and boilers. With this increase, the company will be able to turn out \$1,000,000 worth of goods per year.

WOONSOCKET RUBBER CO.

THE office and office force of this company have been transferred from Providence, Rhode Island, to the office building of the "Alice" mill, at Woonsocket, in pursuance of the policy of concentration of office forces recently adopted. Mention has been made already of the consolidation of the pay roll force of the two factories of the Woonsocket company.

A DECISION FOR THE VICTOR RUBBER TIRE CO.

AT Cincinnati on May 31, in the United States circuit court, Judge Thompson handed down a decision in the case of The Rubber Tire Wheel Co. *et al.*, *v.* The Victor Rubber Tire Co. *et al.*, in Equity, No. 4830, involving the validity of the Grant patent on solid rubber carriage wheel tires. The suit had been brought for alleged infringement of the "Kelly-Springfield" tire. The decision reads:

Bill dismissed at complainant's costs on the authority of the case of same complainants *v.* The Goodyear Tire and Rubber Co., decided by the United States circuit court of appeals, sixth circuit, May 6, 1902, declaring the Grant patent void.

AN ELECTRIC LIGHT WIRE POOL.

THE New York newspapers reported recently that a pool had been organized by the insulated wire companies, for the regulation of prices, and that the same was likely to come to an end on account of the withdrawal of The Safety Insulated Wire and Cable Co. It appears that a wire pool was formed a short time ago, but covering only such wire as is used in the

installation of electric light plants in buildings. Although this is a class of trade to which the Safety company has never given much attention—their work having been in large contracts for street railway, electric light, and submarine cables—Mr. Requa, the then treasurer of the company, agreed to go into the combination. At the first meeting of the new board of directors of the Safety company it was stated that the wire companies had not adhered to the rules of the agreement in bidding for the work on a large store being erected in New York, since which time the president of the company has sent in a notification of withdrawal from the agreement. It is stated that out of their trade of \$2,000,000 a year, the class of work to which the agreement related has not represented over \$100,000 of their product.

LARGE ORDERS FOR RUBBER BELTING.

ONE of the largest contracts for rubber elevator and conveyor belts that has been placed for some time past has just been awarded to The Whitman & Barnes Manufacturing Co. (Akron, Ohio) by the Southern Pacific Terminal Co., for their new grain elevators at Galveston, Texas. The order calls for 11,708 feet of "Hontas" rubber belting, running from 22" to 36" widths, 4 and 6 plies, and weighing approximately 60,000 pounds. It is understood that this contract was secured in competition with most of the prominent rubber belting manufacturers in the country. The Whitman & Barnes company have also captured one of the largest orders for rubber drive belts that has been placed in Massachusetts for some time.

CONSOLIDATED RUBBER TIRE CO.

ISAAC L. RICE, for some years past president, has been elected to the newly created office of chairman of the board of directors, and as such will act in an advisory capacity. Van H. Cartmell, who has been second vice president, has been elected president, to succeed Mr. Rice. Mr. Cartmell was formerly manager of the New York branch of the Rubber Tire Wheel Co. and, since its merger in the Consolidated Rubber Tire Co., has been connected with the principal offices of the latter, at No. 40 Wall street, New York.

UNITED STATES RUBBER CO.

IN addition to the list of officers elected at the late annual meeting, as reported in the last INDIA RUBBER WORLD, the following additional positions have been filled by appointment by the board of directors:

Assistant Treasurer.—JOHN J. WATSON, Jr.
Assistant General Manager.—HOMER E. SAWYER.
Manager of Sales.—EBEN H. PAINE.
Manager of Branch Stores.—EDWARD R. RICE.

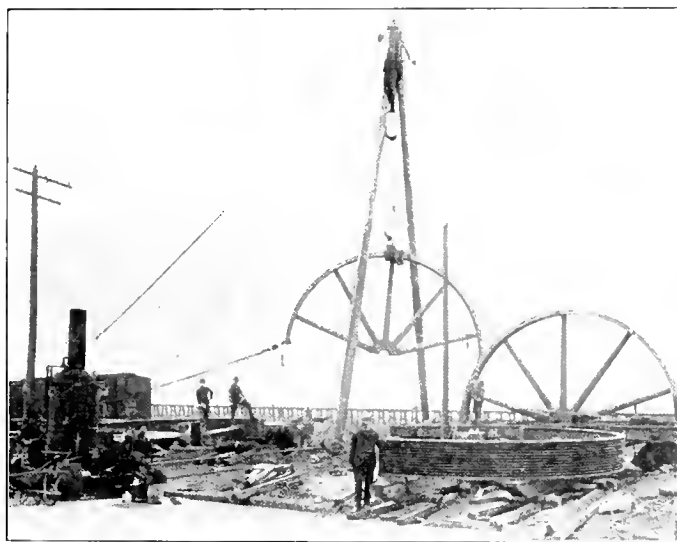
Mr. H. M. Sadler, Jr., who for some years has been assistant treasurer of the United States Rubber Co., and in addition has been assistant general manager for the past year, has been elected vice president of the Meyer Rubber Co. This new position, for reasons that recently have become existent, is one of importance, and one for which Mr. Sadler's familiarity with financial affairs specially qualifies him. As intimated in the late annual report of the United States Rubber Co., the Meyer Rubber Co. has acquired large security holdings in various enterprises, to insure the proper management of which it has been deemed best that they should be in exclusive charge of some one of financial experience and executive ability.

THE GUM-CARBO COMPANY (BEAUMONT, TEXAS).

THIS company has been incorporated under the laws of Texas, with \$1,000,000 capital, to establish at Houston a factory for the production of the rubber substitute from petroleum referred to in THE INDIA RUBBER WORLD of April 1 [page 230]. The prime mover was Tom C. Swope, general manager of Huntley Oil and Refining Co. (Beaumont, Texas), who is president of the new corporation. F. W. True is vice president and R. E. Humphreys, secretary and treasurer, with offices for the present at Beaumont. The company desire to hear from manufacturers of machinery, including rubber machinery, with regard to supplying plant. It is hoped by the company that the factory will be in operation by November. Mr. Swope advises THE INDIA RUBBER WORLD that the new substitute will be called Gum-Carbo, and that from it they intend making high grade enamels, an indestructible paint for structural iron work, an acid and alkali proof paint for metal or wood, and ultimately a substitute for linseed oil for use in making paints and varnish. "Gum-Carbo will enter very largely into the manufacture of soft and hard insulating materials, in which particular line it will almost be at its best. It will be used in making rubber tires, shoes, mats, belting, packing, and all other rubber goods; it can also be vulcanized, and when vulcanized it can be used to make all hard rubber goods such as buttons, combs, brushes, electrical appliances, etc."

NEW PLANT OF THE U. S. RUBBER RECLAIMING WORKS.

THE illustration on this page is based upon a photographic view of the work of putting in position a series of gears which form part of the power plant of the U. S. Rubber Reclaiming Works, at Buffalo, New York. The main building of the fac-



tory, on the left, is not shown in the picture, and by this time an additional building has gone up over the power plant. The three gears shown are each 22 feet in diameter and 24 tons in weight. The gears are connected each with a shaft extending through the main factory building, to afford power, and all are operated, through rope transmission, by an electric motor of 1500 H. P. under the same roof. This motor, by the way, shipped recently by the General Electric Co. from Schenectady, New York, is stated by them to be the largest induction motor ever constructed for an industrial establishment. The location of the factory of the U. S. Rubber Reclaiming Works is seventeen miles from Niagara Falls, the original source of the electric power utilized in the factory. It is expected that the new plant will be in operation by the middle of this month,

and in any event not later than the first of August. The large gears shown in the picture were supplied by the Dodge Manufacturing Co., Mishawaka, Indiana.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED States Rubber Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 24	2,290	16 $\frac{1}{2}$	14 $\frac{3}{4}$	1,020	57 $\frac{1}{4}$	56 $\frac{1}{2}$
Week ending May 31	815	15 $\frac{1}{8}$	14 $\frac{3}{4}$	500	57	56 $\frac{1}{2}$
Week ending Jun. 7	270	14 $\frac{1}{8}$	14 $\frac{1}{2}$	700	56 $\frac{3}{4}$	56
Week ending Jun. 14	20	15 $\frac{1}{4}$	14 $\frac{3}{8}$	160	55 $\frac{1}{2}$	55 $\frac{1}{2}$
Week ending Jun. 21	340	15	14 $\frac{1}{2}$	860	55	55

RUBBER Goods Manufacturing Co. :

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 24	1,190	21	19 $\frac{1}{2}$	...	...	...
Week ending May 31	310	21	20 $\frac{1}{4}$	490	68	67
Week ending Jun. 7	1,310	20	19	1,195	68	66 $\frac{1}{2}$
Week ending Jun. 14	1,091	20	19	200	68	68
Week ending Jun. 21	480	20 $\frac{1}{2}$	19 $\frac{3}{4}$	265	65 $\frac{3}{4}$	65 $\frac{1}{2}$

THE STRAUS SPONGE PATENT.

ALEXANDER STRAUS, of New York, who has long been connected with the rubber trade, has been allowed a patent embracing eight claims for a "Method of Forming Sponge Substitutes." Briefly, these claims cover the use of paraffine as a semisolvent for rubber, in which a certain amount of sulphur may be incorporated; the heating of the semi fluid mass, and its subsequent vulcanization. Certain of the claims cover the addition of water to distend the cells, and the use of a chemically acting cell-forming hydrocarbon.

AMERICAN RUBBER CO.

THE annual report of condition, dated May 6, 1902, filed with the Massachusetts commissioner of corporations, compares with previous reports as follows :

ASSETS.

	1900.	1901.	1902.
Land and water power.....	\$ 37,287	\$ 37,287	\$ 37,287
Buildings.....	148,617	148,617	148,617
Machinery.....	136,927	136,927	136,927
Cash and debts receivable....	943,683	1,084,280	1,265,191
Stock in process.....	1,615,452	1,228,176	1,456,413
Patent rights.....	1,000	.....	.....
Miscellaneous.....	3,423	.....	.....
Total.....	\$2,886,389	\$2,635,286	\$3,048,155

LIABILITIES.

	1900.	1901.	1902.
Capital stock.....	\$1,000,000	\$1,000,000	\$1,000,000
Debts.....	490,000	460,000	793,171
Dividends unpaid.....	150,000	.....	.....
Balance profit and loss.....	380,655	309,552	389,249
Reserve for depreciation.....	865,734	865,734	865,735
Total.....	\$2,886,389	\$2,635,286	\$3,048,155

THE NEW SEAMLESS TRADE MARK.



THE Seamless Rubber Co. (New Haven, Connecticut), are bringing out an extra high grade of druggists' goods, which are to be in workmanship, quality, and packing, the very best that an up-to-date factory can turn out. These goods will be made in both red and white, and will all of them bear the accompanying artistic trade-mark.

TRADE NEWS NOTES.

THE Manhattan Rubber Manufacturing Co. (New York) announce: "We have the pleasure to announce that, owing to the increased volume of our local business, we have installed another telephone wire. So many complaints have come in that our telephones are continuously busy that we have found it expedient to change our numbers and have three trunk lines to our office." The new numbers are 7260, 7261, and 7262 Cortlandt.

=The Franklin Rubber Co. (Boston, Massachusetts) have removed from No. 13 Franklin street, to more centrally located quarters at No. 155 Summer street.

=The sole agency for the United States for the rubber sponges manufactured by the Russian-American India Rubber Co. (St. Petersburg), has been acquired by Alfred H. Smith, Nos. 84-86 Chambers street, New York, who reports a large demand for these goods. In order to identify these sponges Mr. Smith has had registered a special trade mark for them, the chief feature of which is the word "Kleanwell."

=William C. Coleman (Boston), dealer in old and new scrap rubber, though not long established in the trade on his own account, has succeeded in building up an extensive business. He is not, however, a new man in the trade, having some time been the purchasing agent for the reclaiming department of The B. F. Goodrich Co. (Akron, Ohio), and having held the honorary positions of acting secretary and treasurer of the Rubber Reclaimers' Association. It was Mr. Coleman who first introduced the Standard packing of old rubber boots and shoes to the trade.

=Improvements are under way at the plant of the United Electric Light Co. (Springfield, Massachusetts.) Hazelton boilers, with an aggregate horsepower of 1800, are to be reset in 200 or 300 H.P. units, in the brick lined steel setting lately introduced by the Hazelton Boiler Co. (Rutherford, New Jersey.) This is a distinct advance over the old time brick work setting. The boilers will be arranged in batteries with square furnaces. Seven boilers at the Springfield plant occupy but 800 square feet of floor space.

=John H. Peterman, who was selling agent for the Milltown India Rubber Co. (Milltown, New Jersey), has taken charge of the rubber department of M. D. Weld & Co. (Chicago), who handle the Apsley Rubber Co.'s footwear.

=The officers and salesmen of the Brunel-Higgins Shoe Co. (Portland, Maine), by invitation paid a visit to the Fells factory of the Boston Rubber Shoe Co. on June 12, in connection with which a lunch was served. The salesmen of the jobbing house of A. P. Tapley & Co. (Boston), were similarly entertained at the factory on June 5, and those of McIntosh & Co. (Springfield, Massachusetts), on June 7.

=The Milford Rubber Co. (Milford, Mass.) are reported to be proofing 10,000 yards of cloth per day, or up to their capacity.

=The Robins Conveying Belt Co. (New York) have brought suit in the United States Circuit Court at Trenton, New Jersey, against the United and Globe Rubber Manufacturing

Cos., alleging infringement of the Robins patent for rubber conveying belts.

=With regard to the persistent rumors that the Hartford Rubber Works Co. may be sold to Colonel Pope, it is only necessary to state that such a sale, to be legal, would have to receive the vote of every stockholder in the Rubber Goods Manufacturing Co., at an annual meeting, preceded by a three months' notice of the proposed transfer.

=Mr. R. L. Chipman (Akron, Ohio), representative of George A. Alden & Co. (Boston), was a recent visitor to the offices of THE INDIA RUBBER WORLD.

=The Republic Rubber Co. (Youngstown, Ohio) are putting up on their property, not far from the factory plant, a boarding house with twenty rooms, and a dozen houses, for the exclusive use of their help. These buildings are to be pleasantly situated and will be, architecturally, as up-to-date and practical as are the splendid factory buildings of the company.

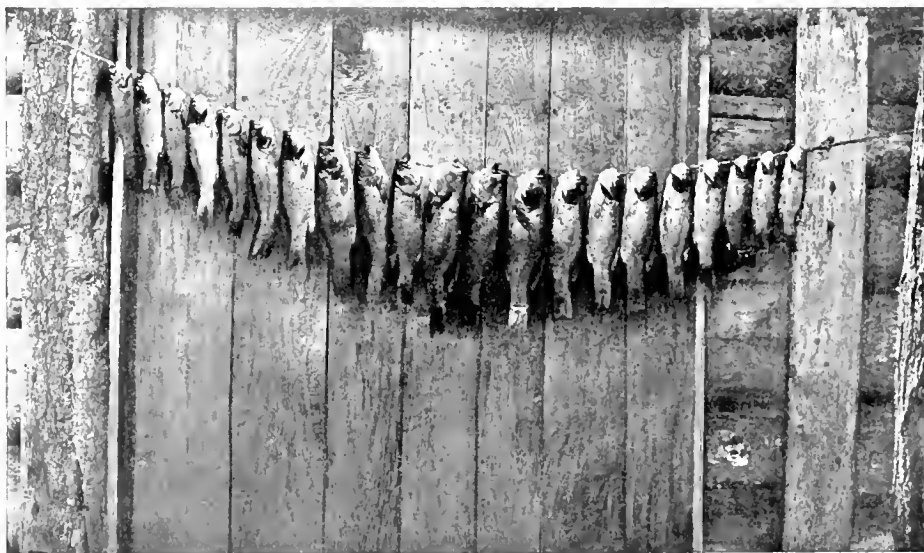
=The Monarch Rubber Co. (St. Louis, Missouri) have given up a portion of their large store on Washington avenue, retaining the street floor for offices and sales rooms and the basement for storage purposes, and erected a building on their factory grounds for storage purposes.

=George S. Andrus, general manager of the La Crosse Rubber Mills Co. (La Crosse, Wisconsin) has just installed a miniature experimental plant at his works, embracing a small washer, grinder, calender, vulcanizer, dry heater, and press.

=Monsieur Ernst Berlyn (Paris), agent in France for the Boston Rubber Shoe Co., spent several weeks lately in the United States.

=The name of Clarence H. Guild, secretary of the Woonsocket Rubber Co. and director in the Joseph Banigan Rubber Co., was inadvertently printed in the last INDIA RUBBER WORLD "Charles" H. Guild.

=While hard rubber scrap is an article collected in very small quantities, the aggregate of the trade is considerable. In one month recently nearly 40,000 pounds were handled by one dealer, and a single shipment made later amounted to 30,000 pounds.



A BEAUTIFUL summer resort owned by a gentleman connected with the rubber trade is known as Pine Grove Springs, Lake Spofford, New Hampshire. The elegant hotel on the lake is owned by James H. Stearns, of the rubber firm of Parker, Stearns & Sutton (New York). It may interest fisherman in the trade to see the reproduction of a string of bass caught on the lake not long since.

=William H. Farwell, New England representative of the Empire Rubber Manufacturing Co., will move this month from No. 289 Devonshire street, Boston, to more commodious quarters at No. 276—almost directly across the street.

=It is interesting to note that a number of pairs of aluminum boot trees, which more than six years ago were placed in one of the leading shoe factories, and have been in constant use ever since, show no signs of deterioration or wear, and must have paid for themselves many times over.

=The regular quarterly dividends of $1\frac{1}{2}$ per cent. on the preferred stock of the American Chic Co. and 1 per cent. on the common stock, have been declared, payable July 1 and July 10, respectively.

NEW ENGLAND RUBBER CLUB.

THE New England Rubber Club are planning an unusually interesting midsummer outing, for the afternoon and evening of July 22, when, through the courtesy of Arthur W. Stedman, chairman of the Sports committee, they will take possession of the finely appointed clubhouse and extensive grounds of the Country Club, Brookline, Massachusetts. Golf, baseball, tennis, squash, pool, and old-fashioned bowling are among the sports of the afternoon. The outing will end with one of the fine dinners for which the Club is famous.

TO MAKE TIRES AT MILLTOWN.

THE International Automobile and Vehicle Tire Co., mentioned in the last issue of this paper as having purchased the Meyer Rubber Co. factory at Milltown, New Jersey, have since been busy in arranging for the manufacture of tires at that place, for which purpose some machinery is being removed from the factory at Newton Upper Falls, though it is not intended to close that factory.

MILLTOWN INDIA RUBBER CO.

AT a receiver's sale in Milltown, New Jersey, on June 19, the plant of this company (in liquidation), including five acres of land, railroad sidings, three story factory building, boilers and engines, and a complete equipment of machinery and tools for the manufacture of rubber boots and shoes, was bought by Fred L. Smith, of Providence, Rhode Island, for \$66,500.

EMPIRE RUBBER MANUFACTURING CO.

ON June 3 General William H. Skirm, of Trenton, bought from George R. Cook 1232 shares in the Empire Rubber Manufacturing Co.—a controlling interest. This stock came into the possession of Mr. Cook at a time when General Skirm had become involved through indorsements for Frank A. Magowan—then an important figure in the rubber industry and president of the Empire company—under an agreement permitting Mr. Cook at the end of five years to fix the price at which General Skirm would have the privilege of buying the stock, failing in which he must sell. The shares were at once assigned to Howell C. Stull, as joint trustee for General Skirm and his creditors, for the benefit of the latter. The trustee received an offer of \$110 per share for the lot which the creditors felt should be accepted. General Skirm's friends, with a view to having him retain the management, offered a bond to indemnify the creditors against loss, but at a meeting of the latter on June 20 this plan was rejected, and the stock again changed hands, the consideration being \$135,520. Mr. Cook, for fifteen years a shareholder, and for several years past, treasurer and general manager, has resigned these positions and sold his original holdings of stock, and a reorganization of the company is in progress. General Skirm, as a result of these transactions, it is understood, will be able to pay his creditors 80 cents on the dollar. =It is understood that the majority of the Em-

pire company's stock has been purchased by C. Edward Murray and Charles H. Baker, of Trenton, and that both General Skirm and William H. Skirm, Jr., will remain connected with the company in their present positions. The company has been doing a very profitable business of late.

PERSONAL MENTION.

=Mr. E. H. Gorse, treasurer of The Monarch Rubber Co. (St. Louis), has just been elected secretary of the largest trust company in the state of Missouri, and is receiving congratulations from all of his friends, and the trust company may consider themselves very fortunate to secure his services. It is understood that he retains his interest in the Monarch Rubber Co.

=Mr. George Louis Richards, of the Stoughton Rubber Co. (Boston, Massachusetts), was married on June 11 to Miss Helen Raymond Robinson, of Malden.

=Mr. S. H. C. Miner, president of the Granby Rubber Co. (Granby, Quebec), will start early this month for British Columbia—an annual trip that he takes to look after his large copper interests in that part of the dominion.

=Mr. Hermann Reimers, of Reimers & Co. (New York), is at present travelling in Europe, with his family.

=Among the prominent New England rubber men who are at present abroad are: Henry C. Morse, treasurer of the Revere Rubber Co., Boston; Joseph Davol, president and treasurer of the Davol Rubber Co., Providence; and Frederick C. Hood, treasurer of the Hood Rubber Co., Boston.

=Mr. R. G. Lockwood, of the Davidson Rubber Co. (Boston), is now in Europe and expects to extend his outing until early in October.

=Mr. Charles J. Davol, secretary of the Davol Rubber Co. (Providence, R. I.) was married June 2, at the Union Congregational church, in Providence, to Miss Helen M. Byrne of that city. Mr. and Mrs. Davol on returning from their wedding trip, will reside at No. 29 Whitmarsh street, Providence.

=Mr. Charles H. Arnold, of the firm of Riemers & Co., Boston, is taking a summer vacation trip over the Canadian Pacific railway, a trip which, if his engagements permit, will take him to the coast.

=Miss Mary Wheeler Harrall, daughter of Mr. E. W. Harrall, of the Fairfield (Conn.) Rubber Co., and Mr. Edwards P. Rowland, of New York, were married June 25.

OBITUARY.

WILLIAM S. EATON, president of the Boston Belting Co., died June 1, at his home, No. 62 Commonwealth avenue, Boston. His death was unexpected, as he had a business engagement for the following morning. He was born in Boston, April 12, 1817, and had always made that city his home. His father was rector of Old Christ Church for twenty-seven years. After receiving a liberal education, the son engaged successfully in the Calcutta trade for many years. He was one of the organizers of the National Tube Works Co., and for twenty-five years was its treasurer, during which time its capital was increased from \$200,000 to \$2,500,000. Mr. Eaton was also a director in the National Bank of North America of Boston. He had been president of the Boston Belting Co. since December 22, 1890, and a director since April 20, 1881. Two sons and a daughter survive.

=The many friends of Mr. Charles A. Coe, of the Boston rubber trade, will sorrow with him in the loss of his wife, who passed away at their home in Cambridge, on May 29. In accordance with the wish of the dying mother, their only daughter, who was to have been married in June, was united to the man of her choice at the bedside of the stricken one.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

THE Stein Double Cushion Tire Co. are now ready to fill orders for their patent rubber vehicle tire. They have completed a two story brick factory, 60x225 feet, in East Akron, and installed a part of their machinery. This company was incorporated in September last, under the laws of New Jersey, with \$100,000 capital, succeeding another company of the same name formed at Meadville, Pennsylvania, to market a tire patented by Charles Stein, the tires being made at that time under contract. The officers of the new company are C. K. Sunshine, president; J. Newman, vice-president and general manager; M. M. Newman, secretary and treasurer; M. J. Friedman, assistant manager; William J. Yeager (lately with the Goodyear Tire and Rubber Co.), superintendent; Jacob Haber, manager of sales. Mr. Stein is also connected with the business. A private railroad switch connects the factory with the Baltimore and Ohio system.

Work on the large addition being erected by The B. F. Goodrich Co. has progressed beyond the second story, and it is expected that the building will be ready for use by early fall. The Goodrich company are erecting a small experimental plant on a tract of land they purchased recently at Beaver and Carroll streets.

The Goodyear Tire and Rubber Co. have completed a real estate deal with the city of Akron that has been pending for more than a year. In return for the cession of a part of Factory street for their use, the company gave a small parcel of land to the city, and also \$3500 towards the building of a bridge adjacent to the property. The company's premises being thus enlarged, they will now erect a warehouse 100x50 feet, which has been under contemplation for some time past.

The Summit Rubber Co., who have just completed a factory at Barberton, have elected J. G. Hollinger, president and treasurer; Augustus Warner, vice-president; and H. M. Hollinger, secretary. All these are Akron men. The superintendent and practical rubber man of the company is E. J. Schutz, lately of Cleveland, Ohio.

The Pure Gum Specialty Co., at Barberton, have installed a new 150 H. P. engine, and have commenced work on a two story brick addition to their factory, 40x60 feet.

The Buckeye Rubber Co. have been very busy, and are much in need of more room. A one story addition to their vulcanizing department, 40x50 feet, is being constructed.

An extension of the local traction lines is being built to the plant of the Peoples' Hard Rubber Co. Vice-president A. B. Rinehart, of this company, has worked for six months to secure the building of this extension for the benefit of their employes.

Colonel George T. Perkins, president of The B. F. Goodrich Co., and Mr. O. C. Barber, a prominent stockholder of the Diamond Rubber Co., have given \$12,500 each to clear the Akron city hospital of debt. It is understood that Mr. Barber will bear the expense of the erection of a large addition to the present buildings. Among the thousands of rubber workers in Akron there is scarcely a week but some one from their ranks is benefited by the hospital, though as a rule the Akron rubber factories have been very fortunate in escaping accidents.

President W. B. Hardy, of The Diamond Rubber Co., returned early in June from a European trip of several weeks, and is expected to leave about July 10 for another journey abroad.

H. E. Raymond, manager of the sales department of The B. F. Goodrich Co., will leave about the middle of July for a three months' absence in Europe.

Vacations among rubber company officials and office men will be late this summer, and the annual picnics of the rubber factory employes will also probably be much later than usual. "It is because everybody is so busy," said Superintendent Marks, of the Diamond Rubber Co.

The new city directory of Akron indicates a population of over 50,000, of which number it is asserted that 20,000 are directly dependent upon the rubber trade for their support, while many more profit from it indirectly. There is not a page in the directory which does not contain the name of from one to ten persons described as being connected with the rubber interest.

RUBBER NOTES FROM EUROPE.

THE Moscow Rubber Co. (Moskauer Gesellschaft für Gummiwaarenmanufaktur) have a capital of 1,969,000 rubles [\$1,102,066]. Receipts for 1901 amounted to 2,792,353 rubles; expenditures, 2,677,996 rubles; and net profits, 114,357 rubles [\$58,779.50]. The fixed property is estimated at 1,310,559 rubles; raw material, 472,032; manufactured goods, 1,082,762; hypothecated indebtedness, 452,000; sinking fund, 58,792; debts, 2,000,000; credits, 2,300,883 rubles.

=The report for the last business year of the New York-Hamburger Gummiwaaren-Compagnie (Hamburg) as compared with the preceding year, makes this showing (in marks):

	1901.	1900.
Gross earnings.....	M 958,156	M 885,260
General expenses.....	436,922	375,580
Written off.....	62,778	55,794
Net profit.....	458,456	453,886
Stock capital.....	1,800,000	1,800,000
Mortgage (working capital).....	660,000	600,000
Preferred loan—5%.....	480,000	510,000
Reserve fund.....	413,470	413,470

=Herr Heinrich Strauss on May 1 celebrated the thirtieth anniversary of his official connection with the rubber factory of Schnek & Kohnberger, at Odrau (Moravia), Austria.

=The estate of the late James Dick, of R. & J. Dick, of the Greenhead rubber works, Glasgow, Scotland, has been officially recorded as being of the gross value of £1,077,034 9s. and the net value of £849,168 9s.

=The North Western Rubber Co., Limited, manufacturers of reclaimed rubber at Liverpool, have established offices in that city at 51, North John street. Ernest E. Buckleton, who was connected with the rubber industry in the United States for several years, is general manager.

=Rubber hose manufacturers who desire to tender for supplies for the London fire brigade are required to pay £1 for the specifications, which amount is refunded after a decision has been made, to all who have sent *bona fide* tenders and have not withdrawn the same. Contractors must pay workmen employed in making the goods not less than the rate of wages, and for not more than the number of hours, named in the specifications.

RUBBER SHOE MACHINE IN GERMANY.

THE American rubber shoe machine has at last made its appearance. At least, we surmise that the patent, No. 12,318, applied for in the name of Henry James Doughty, Providence, Rhode Island, U. S. A., represents that invention. The patent notice mentions an "Arrangement for the manufacture of rubber shoes," and this is, no doubt, the "revolutionizing machine." Now, those interested can satisfy themselves to what extent they deem this invention of practical value; we are sorry to say that until the patent has been granted, we are constrained from giving any information in regard to it.—*Gummi-Zeitung (Dresden)*.

REVIEW OF THE CRUDE RUBBER MARKET.

TO-DAY marks the beginning of a new crop year in the Pará rubber trade, and the point of first interest is to note the large increase of production during the past year over any previous twelve months. The arrivals (including Caucho) at Pará for six years were as follows (in tons):

1896-97.	1897-98.	1898-99.	1899-00.	1900-01.
22,320	22,250	25,370	26,670	26,610

Up to June 25 last the arrivals, since July 1, 1901, had amounted to 29,845 tons—indicating an increase for the whole crop year of 10 per cent. over the preceding year, and an increase of 18 per cent. over the average production of five years preceding. Recent conditions have been affected by the throwing upon the market, by the failure of a New York company a few months ago, of a large quantity of old rubber, equivalent to an increased production during the year of that amount, which would raise the percentage of increase for the past year very materially. No more is heard now of conditions in the Amazon country unfavorable to the bringing in of rubber—such as at one time were made the basis of predictions of a short crop for the year just closed. The only thing ever likely to curtail the production of Pará rubber—at least until all the rubber area has been worked over—is a fall in prices much below the present level. This, on the other hand, seems unlikely while the present active demand for rubber continues. The production of other than Pará grades of rubber, though well maintained on the whole, no longer shows the rapid rate of increase which first followed the opening up of new districts in Africa, and thus is removed one factor in keeping down prices of Pará rubber. On the whole, therefore, rubber may be expected to come forward whenever a demand for it exists, and at a rate which will prevent, in the near future, a very marked advance. At the same time the production of rubber is not likely to be pressed so far as to send prices lower.

New York quotations on June 28 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	@69	Tongues.....	@43
Islands, fine, old.....	@72	Sierra Leone, 1st quality	@61
Upriver, fine, new....	@71	Benguella.	@43
Upriver, fine, old....	@75	Cameroon lumps.....	@43
Islands, coarse, new....	@45	Flake and ball.....	@30
Islands, coarse, old....	@	Accra flake.....	@18
Upriver, coarse, new....	@56	Accra buttons.....	@44
Upriver, coarse, old....	@	Accra strips.....	@48
Caucho (Peruvian) sheet	@48	Lagos buttons.....	@41
Caucho (Peruvian) ball	@52	Lagos strips.....	@48
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	@51	Madagascar, black....	@
Guayaquil, strip.....	@48	EAST INDIAN.	
Nicaragua, scrap....	@50	Assam.....	@53
Mangabeira, sheet....	@40	Borneo.....	@40

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.	4\$400	Upriver, fine.	4\$250
Islands, coarse	2\$300	Upriver, coarse.	2\$150

Exchange, 12 3/16d.

Last Manáos advices:

Upriver, fine.	5\$000	Upriver, coarse.	3\$300
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Exchange, 12d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER.)

	1902.		1901.		1900.
Upriver, fine.	71 @74½	89 @93	89 @102		
Upriver, coarse	56 @60	62 @65	65 @75		
Islands, fine.	70 @73½	85 @90	87 @99		
Islands, coarse.	45 @49	51 @60	47 @61		
Cametá, coarse	51½ @53	58 @63	56 @65		

Para Rubber Statistics (Excluding Caucho).

	NEW YORK.		Total 1902.	Total 1901.	Total 1900.
	Fine and Medium.	Coarse.			
Stocks, April 30.....	476	16 =	492	994	850
Arrivals, May.....	767	273 =	1040	1155	509
Aggregating.....	1243	289 =	1536	2149	1419
Deliveries, May.....	703	277 =	980	1254	790
Stocks, May 31.....	540	12 =	552	895	629

	PARÁ.		ENGLAND.	
	1902.	1901.	1902.	1901.
Stocks, April 30.....	2240	170	170	1425
Arrivals, May.....*	1580	1755	2865	600
Aggregating.....	3820	1335	3035	2025
Deliveries, May.....	3740	1185	960	675
Stocks, May 31....	80	150	2075	1350

[* Caucho arrivals, in addition, 500 tons.]

	1902.	1901.	1900.
World's supply, May 31.....	3,650	3,102	3,959
Pará receipts, July 1 to May 31.....	25,494	22,911	25,205
Pará receipts of Caucho, same dates.....	3,236	2,383	
Afloat from Pará to United States, May 31..	533	377	233
Afloat from Pará to Europe, May 31.....	410	330	832

[Advices to June 26 stated that arrivals at Pará since the first of June had amounted to 860 tons of Rubber and 255 tons of Caucho.]

Manaos Rubber Arrivals From Amazonas State.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Contrary to all expectations, the yield of rubber from this state was larger in April, 1902, than in the same month in either of the two years preceding. The arrivals have also been larger during the first four months of the year than in the same period of the preceding years. The details are shown in this table, weights being expressed in kilograms:

	January.	February.	March.	April.	Total.
Purús.	1,886,449	1,417,952	1,120,436	484,214	4,909,051
Juruá.	869,670	326,103	644,975	526,818	2,367,566
Solimões.	221,778	156,741	350,927	61,750	791,196
Madeira.	254,346	418,809	337,327	164,596	1,175,078
Others.	102,271	75,575	61,444	41,613	280,903
Total.	3,334,514	2,395,180	2,515,109	1,278,991	9,523,794
Total, Four months, 1901.....					8,260,558
Total, Four months, 1900.....					8,970,833

It will be noted that the yield of the zone of the Solimões, including the Japurá, Caqueta, Badajos, and Autaz, shows a marked decrease, as had been predicted. The only reason that can be given for the very marked increase in yield of the Juruá, Purús, and Madeira, is that the rubber cutters of those regions, unable to visit Manáos, and there spend their money freely, as they usually do, had to remain up river gathering rubber. Persons who have just returned from those districts report that several new zones hitherto neglected on account of their comparatively small yield per *estrada*, have been worked this year. Arrivals from "other rivers" include a good deal of caucho from the Putumayo, which is gradually being opened up by the Peruvians.

L. G.

Manáos, Brazil, May 5, 1902.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the sale of May 22 transactions in rubber have been limited. A small sale by inscription was held on June 9, when 13 tons

were sold out of 34 tons exposed, prices showing no change. A lot of Ikelemba of fine quality sold at 7.50 francs; another of inferior quality at 6.65 francs. The next sale, comprising 367 tons, chiefly Congo grades, is announced for July 3. Among the principal lots to be offered are:

	Valuation.
20 tons Upper Congo cut balls.....	francs 6.85
23 " Upper Congo strips.....	6.10
14 " Congo Djuma.....	5.
23 " Aruwimi.....	5.25
32 " Uellé strips.....	5.50
23 " Upper Congo small strips.....	6.10
23 " Mongalla strips.....	6.25
23 " Lopori I.....	6.75
7 " Lopori II.....	5.50
15 " Lomami small round strips.....	7.

C. SCHMID & CO.

Antwerp, June 17, 1902.

RUBBER STATISTICS FOR MAY.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Apr. 30.....kilos	500,664	813,818	821,820	521,303	186,246
Arrivals May.....	537,536	356,915	445,062	220,822	79,922
Congo sorts.....	489,002	315,382	346,448	184,732	75,107
Other sorts.....	47,634	41,533	98,614	36,090	4,815
Aggregating.....	1,038,200	1,170,733	1,266,882	742,125	266,168
Sales in May.....	573,525	345,291	389,256	238,775	75,995
Stocks, May 31.....	464,675	825,442	877,626	503,350	190,263
Arrivals since Jan. 1.....	2,346,859	2,543,593	2,729,287	1,430,686	741,523
Congo sorts.....	2,188,328	2,207,438	2,245,718	1,234,284	643,937
Other sorts.....	158,531	276,355	483,569	196,402	98,486
Sales since Jan. 1.....	2,296,893	2,332,190	2,143,652	1,190,676	645,823

ARRIVALS AT ANTWERP.

MAY 23.—By the *Philipville*, from the Congo:

Bunge & Co. ....(Société Générale Africaine) kilos	144,000
Bunge & Co. ....(Comité Spécial Katanga)	1,900
Bunge & Co. ....(Société Anversoise)	29,000
Bunge & Co. ....(Plantations Lacourt)	7,000
Bunge & Co. ....(Société Isanghi)	2,000
Ch. Dethier.....(Société la Loanje)	7,000
Ch. Dethier.....(La M' Poko)	380
Société Equatoriale Congolaise.....	6,000
Société A B I R.....	34,000
M. S. Cols.....(Centrale Africaine)	5,000
M. S. Cols.....(Société L'Ikelemba)	1,000
Société Coloniale Anversoise.....(Société La Djuma)	10,000
Société Coloniale Anversoise (Cie. des Mag. Généraux)	2,500
Société Coloniale Anversoise.....(Cie. de Lomami)	13,000
Société Coloniale Anversoise.(Belge du Haut Congo)	15,000
W. Mallinckrodt & Co.....(Alimaïenne)	5,000

282,780

JUNE 11.—By the *Anversville*, from the Congo:

Bunge & Co. ....(Société Générale Africaine) kilos	162,700
Bunge & Co. ....(Société Anversoise)	43,500
Bunge & Co. ....(Société Isanghi)	14,400
Bunge & Co. ....(Comité Spécial Katanga)	11,049
Bunge & Co. ....(Plantations Lacourt)	13,000
M. S. Cols.....(Centrale Africaine)	6,000
M. S. Cols.....(Vegetaux Kassai)	14,000
M. S. Cols.....(Société L'Ikelemba)	300
Ch. Lethier.....(Société Belgika)	5,700
Société A B I R.....	13,000
Comptoir Commercial Congolais.....	5,300
Société Coloniale Anversoise.....(Belge du Haut Congo)	18,700
Société Coloniale Anversoise.....(Cie. de Lomami)	10,900
Société Coloniale Anversoise.(Cie. Française du Haut Congo)	800
Société Coloniale Anversoise (Cie. des Mag. Généraux)	2,300
Société Coloniale Anversoise.....(Sud Kamerun)	2,000
Comptoir des Produits Coloniaux (Cie. de Ekela Sanga)	2,100
W. Mallinckrodt & Co.....(Alimaïenne)	7,400

333,149

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The tendency in the crude rubber market during the past week for Pará sorts became weak and holders were inclined to be easier,

which led to a few transactions in fine Pará, hard cure, spot and delivery, at *M* 6.60. Transactions in fine Bolivian, owing to the high price ideas of the importers, were almost entirely absent. Scrappy negroheads were asked for in vain. A small lot of fine Mollendo, spot, was taken out of the market at secret prices. Middle sorts, also, took on a more subdued tone, and transactions are less animated, but no material quantities are stored up, and arrivals of fair quality are readily disposed of. Inferior sorts receive no attention whatever, and, at firm offers, can be had to advantage. A shortage is complained of in Ceará, Mangebeira, Mozambique (fine sorts), and in Ecuador and Colombia scraps, strips, and sheets. Sales have been at the following prices in marks per kilogram:

Mozambique balls, fine..... <i>M</i> 6.10 @ 6 15	Congo thimbles, black. @ 4.80
Mozambique balls, good.....5.85 @ 5.90	Congo thimbles, red. .2.65 @ 2.70
Mozambique balls, black.....4.25 @ 4.35	Adeli balls, red, fine..6.20 @ 6.25
Massai niggers, red...5.75 @ 5.75	Adeli balls, red, poor..5.80 @ 5.85
Soudan niggers.....5.40 @ 5.50	Batanga balls, small..3.80 @ 3.35
Soudan twist.....5.40 @ 5.50	Gold Coast lumps.....3.25 @ 3.30
Hamburg, June 10, 1902.	Gold Coast pressed biscuits.....4.15 @ 4.20
	Borneo, white first....4.70 @ 4.75

Liverpool.

WILLIAM WRIGHT & Co. report [June 2]: "*Fine Pará*.—There has been an active demand, with slight fluctuations, but at the close prices are *1d.* per pound, below last month. A good deal of manipulation has been going on which, in the absence of general trade demand, has been successful. In our opinion there is nothing in the actual situation of this grade, especially if compared with prices ruling for medium kinds, to justify these low prices, but as long as there is no general support the market will be left at the mercy of manipulators; very little would turn the scale. Sales on spot total 185 tons, but a good deal of this has been by way of exchange—*i.e.* buying forward against selling spot, closing price being 3s. An active demand forward, especially for hard cure at current rates; this is partly due to the belief that the Americans, at their present rate of consumption, may have to cover their surplus requirements on this side later on. There is some foundation for this if their present stock is taken into account, and it must be borne in mind that for the first time the stock of the Crude Rubber Co. is included in the return."

London.

EDWARD TILL & Co., under date of June 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	121	168	117
{ Assam and Rangoon.....	23	40	40
{ Other sorts.....	432	528	465
Total.....*	576	736	622
LIVERPOOL { Pará.....	2084	1355	1674
{ Other sorts.....	1027	1411	1328
Total, United Kingdom.....	3687	3502	3624
Total, May 1.....	3788	3597	3952
Total, April 1.....	3326	3522	3104
Total, March 1.....	3078	2989	1917
Total, February 1.....	2674	3129	1848
Total, January 1.....	2794	2901	1855

[* Corrected.]

PRICES PAID DURING APRIL.

	1902.	1901.	1900.
Pará fine, hard.....	2/11½ @ 3/1½	3/8 @ 3/10½	3/8½ @ 4/2½
Negroheads, scrappy.....	2/5	2/7½ @ 2/8	2/8½ @ 2/11½
Do Islands.....	1/11½	2/2½	2/4½
Bolivian.....	3/0½	No sales.	No sales.

ADVICES under date of June 15 are that the market for Pará had shown renewed firmness, owing to less pressure to sell,

and prices had recovered $\frac{1}{2}d.$ per pound, at which a good business had been effected, including fine Bolivian on the spot and near delivery at $3s. @ 3s. \frac{1}{4}d.$ and medium at $2s. 10d. @ 2s. 10\frac{1}{4}d.$; fine hard cure Pará spot at $2s. 11\frac{1}{2}d. @ 2s. 11\frac{3}{4}d.$ and forward at $3s. @ 3s. \frac{1}{4}d.$; also medium at $2s. 9\frac{1}{2}d. @ 2s. 10d.$ In soft cure, a moderate business had been done for near and distant delivery, at $2s. 11\frac{3}{4}d.$ and medium at $2s. 9\frac{1}{2}d.$ Negroheads had been quiet, with little doing. Peruvians had been quiet, with small sales of ball, fine clean at $2s. 5\frac{1}{2}d.$ and fair at $2s. 4\frac{1}{2}d.$ Slab sold at $1s. 11d.$ No auctions were held during the week and privately African grades were quiet, though firm.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

June 14.—By the steamer *Hilary*, from Manáos and Pará:

New York Commercial Co.	157,300	36,000	116,000	8,500=	317,800
Reimers & Co.	81,800	23,500	51,900	41,300=	198,500
A. T. Morse & Co.	84,800	25,200	77,800	8,600=	196,400
L. Johnson & Co.	39,600	5,700	9,300	.....=	54,600
William Wright & Co.	.....	.....	6,900	.....=	6,900
Boston Rubber Shoe Co.	.....	.....	.....	14,500=	14,500

PARA RUBBER VIA EUROPE.

MAY 27.—By the *La Gascogne*=Havre:

A. T. Morse & Co. (fine)	7,600
A. T. Morse & Co. (coarse)	10,200
A. T. Morse & Co. (Cauchio)	26,000

MAY 31.—By the *Lucania*=Liverpool:

William Wright & Co.	22,600
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OTHER IMPORTS AT NEW YORK.

CENTRALS.

MAY 26.—By the *Comus*=New Orleans:

A. T. Morse & Co.	9,600
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MAY 27.—By the *Orizaba*=Colon:

Hirzel, Feltman & Co.	9,400
G. Amsinck & Co.	3,300
A. Santos & Co.	3,100
American Trading Co.	3,400
Dumarest & Co.	1,300
J. Ferro	1,000
Lawrence Johnson & Co.	500
R. Fabien & Co.	500

MAY 31.—By the *Lucania*=Liverpool:

Reimers & Co.	3,200
---------------	-------

JUNE 2.—By the *Carib II*=Truxillo:

Eggers & Heinlein	13,400
J. W. Wilson & Co.	1,400
H. W. Peabody & Co.	1,300
G. Amsinck & Co.	800
A. S. Lascellas & Co.	300

JUNE 3.—By the *El Valle*=New Orleans:

Manhattan Rubber Mfg. Co.	6,700
Eggers & Heinlein	500
A. T. Morse & Co.	1,200

JUNE 2.—By the *Havana*=Mexico:

E. Steiger & Co.	3,000
Graham, Hinckley & Co.	2,500
H. Marquardt & Co.	2,000
P. Harmony Nephews Co.	1,200
F. Probst & Co.	1,000
Samuels Brothers	500
Harburger & Stack	400
For Europe	4,500

JUNE 3.—By the *Alene*=Greytown:

E. B. Strout	6,500
A. D. Straus & Co.	2,700
Andreas & Co.	2,500
G. Amsinck & Co.	1,500
Lawrence Johnson & Co.	1,600
D. A. De Lima & Co.	3,000

JUNE 3.—By the *Matanzas*=Mexico:

Graham Hinckley & Co.	2,500
H. Marquardt & Co.	1,600
E. Steiger & Co.	300

JUNE 6.—By the *Coleridge*=Bahia:

J. H. Rossbach & Bros.	9,000
August Stumpf	1,200

JUNE 4.—By the *Advance*=Colon:

G. Amsinck & Co.	6,200
Isaac Bradon & Bros.	2,700
Hirzel, Feltman & Co.	2,000
Eggers & Heinlein	2,000
A. Santos & Co.	1,300
Dumarest & Co.	800
A. D. Straus & Co.	600

CENTRALS—Continued.

Pomares & Cushman	400
R. G. Barthold	400
Joseph Hecht	300

JUNE 9.—By the *El Rio*=New Orleans:

A. T. Morse & Co.	2,200
L. Johnson & Co.	1,200
D. A. De Lima & Co.	1,200

JUNE 12.—By the *El Dia*=New Orleans:

A. T. Morse & Co.	11,000
Samper & Co.	2,500
For Europe	3,000

JUNE 12.—By the *Patricia*=Hamburg:

Harburger & Stack	1,800
Robinson & Tallman	1,600

JUNE 16.—By the *Vigilancia*=Mexico:

E. Steiger & Co.	3,000
Theband Brothers	1,000
Graham, Hinckley & Co.	500

JUNE 17.—By the *Finance*=Colon:

American Trading Co.	6,200
Hirzel, Feltman & Co.	3,800
G. Amsinck & Co.	1,700
D. A. De Lima & Co.	1,700
Joseph Hecht	1,000
Eggers & Heinlein	800
R. Fabien & Co.	800

JUNE 17.—By the *Athos*=Greytown:

E. B. Strout	6,500
Andreas & Co.	600
A. D. Straus & Co.	600
G. Amsinck & Co.	100
D. A. De Lima & Co.	3,000

AFRICANS.

MAY 26.—By the *Umbria*=Liverpool:

George A. Alden & Co.	11,500
A. T. Morse & Co.	11,000
Livesey & Co.	6,500
William Wright & Co.	2,000
Robinson & Tallman	5,000

MAY 26.—By the *Potsdam*=Rotterdam:

A. T. Morse & Co.	18,500
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MAY 27.—By the *Zeeland*=Antwerp:

George A. Alden & Co.	21,000
A. T. Morse & Co.	3,000

MAY 28.—By the *Nomadic*=Liverpool:

Reimers & Co.	22,500
Otto Meyer (Boston)	15,500

MAY 31.—By the *Lucania*=Liverpool:

Reimers & Co.	11,000
A. T. Morse & Co.	5,600

JUNE 2.—By the *Pretoria*=Hamburg:

A. T. Morse & Co.	8,000
Otto Meyer (Boston)	3,500

JUNE 3.—By the *Friesland*=Antwerp:

A. T. Morse & Co.	30,000
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JUNE 3.—By the *Moltke*=Hamburg:

George A. Alden & Co.	11,500
William Wright & Co.	4,000
Otto Meyer (Boston)	1,000

JUNE 6.—By the *Germanie*=Liverpool:

A. T. Morse & Co.	6,000
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United States Rubber Co.	6,800=	6,800
G. Amsinck & Co.	200	1,900=	2,100
Total	363,500	90,600	263,800	797,600

June 4.—By the steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchio.	Total
New York Commercial Co.	94,500	39,700	88,000	53,800=	276,000
Reimers & Co.	40,800	19,400	23,200	14,600=	98,000
A. T. Morse & Co.	28,400	6,200	32,700	3,700=	71,000
Boston Rubber Shoe Co.	.....	.....	.....	37,800=	37,800
United States Rubber Co.	.....	.....	.....	18,900=	18,900
William Wright & Co.	.....	.....	12,600	.....=	12,600

Total 163,700 65,300 156,500 128,800= 514,300

June 24.—By the steamer *Grangense*, from Manáos and Pará:

Reimers & Co.	65,000	12,100	42,200	47,500=	166,800
New York Commercial Co.	84,800	18,500	35,000	2,100=	140,900
A. T. Morse & Co.	8,700	6,500	37,500	17,400=	70,100
William Wright & Co.	.....	.....	8,200	.....=	8,200

Total 158,100 37,100 123,800 67,000= 386,000

[NOTE.—The Steamer *Bernard* from Pará, is due at New York July 5, with 100 tons of Rubber and 65 tons Cauchio.]

AFRICANS—Continued.

JUNE 9.—By the *Etruria*=Liverpool:

George A. Alden & Co.	20,000
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JUNE 9.—By the *Boric*=Liverpool:

Otto Meyer (Boston)	20,000
Mark Hydes & Co.	2,500

JUNE 11.—By the *Southwark*=Antwerp:

George A. Alden & Co.	235,000
Reimers & Co.	10,000
A. T. Morse & Co.	9,000
For Boston	50,000

JUNE 12.—By the *Patricia*=Hamburg:

Reimers & Co.	22,000
George A. Alden & Co.	9,500
Otto Meyer (Boston)	11,000
William Wright & Co.	4,500
Robinson & Tallman	4,500

JUNE 12.—By the *Teutonic*=Liverpool:

A. T. Morse & Co.	29,500
Mark Hydes & Co.	2,600

JUNE 16.—By the *Vaderland*=Antwerp:

A. T. Morse & Co.	25,000
New York Commercial Co.	1,000

JUNE 18.—By the *Blucher*=Hamburg:

A. T. Morse & Co.	20,000
Reimers & Co.	20,000
George A. Alden & Co.	2,000
Robinson & Tallman	11,500

[Frank W. Greene was mentioned last month as receiving 6500 pounds of Africans by the *Patricia* on May 8. This was an error, Mr. Greene being a broker and not an importer.]

EAST INDIAN.

JUNE 6.—By the *Hillman*=Calcutta:

Reimers & Co.	6,000
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JUNE 9.—By the *Hudson*=Singapore:

Reimers & Co.	11,000
J. W. Greene & Co.	6,500

JUNE 9.—By the *Etruria*=Liverpool:

Reimers & Co.	10,500
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JUNE 10.—By the *Aragonia*=Singapore:

D. P. Cruikshank	8,000
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JUNE 16.—By the *Philadelphia*=Southampton:

Reimers & Co.	22,500
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JUNE 16.—By the *Minneapolis*=London:

Otto Meyer (Boston)	13,500
William Wright & Co.	13,500

PONTIANAK.

JUNE 9.—By the *Hudson*=Singapore:

Reimers & Co.	425,000
R. Brauss & Co.	100,000

JUNE 10.—By the *Aragonia*=Singapore:

Reimers & Co.	535,000
Robinson & Tallman	45,000

JUNE 16.—By the *Minneapolis*=London:

R. Brauss & Co.	45,000
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GUTTA-PERCHA AND BALATA

POUNDS.		
JUNE 9.—By the <i>Hudson</i> =Singapore:		
Reimers & Co.	1,500	
R. F. Downing & Co.	19,500	21,000
JUNE 9.—By the <i>Blucher</i> =Hamburg:		
Schrader & Ehlers.	2,000	
To Order	2,000	4,000

BALATA.

MAY 26.—By the <i>Menominee</i> =London:		
Earle Brothers.		4,500
MAY 31.—By the <i>Prins Willem V.</i> =Surinam:		
G. Amsinck & Co.	1,000	
JUNE 9.—By the <i>Maracal</i> =Trinidad:		
George A. Alden & Co.	17,000	
G. Amsinck & Co.	500	17,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUE.
India-rubber.	4,222,073	\$2,035,218

Gutta percha	43,190	37,205
Gutta jelutong (Pontianak)	1,102,576	29,701
Total	5,307,839	\$2,102,124
Exports:		
India-rubber	128,326	\$68,132
Reclaimed rubber	13,594	2,275
Rubber Scrap Imported	1,370,374	\$87,720

BOSTON ARRIVALS.

POUNDS.		
MAY 1.—By the <i>Alexandria</i> =Hamburg:		
Otto Meyer—African		5,285
MAY 2.—By the <i>Ulltonia</i> =Liverpool:		
Reimers & Co.—Coarse Para	22,225	
Reimers & Co.—African	8,897	
Robinson & Tallman—African	9,100	
George A. Alden & Co.—African	13,314	53,536
MAY 3.—By the <i>Friesland</i> =Antwerp:		
George A. Alden & Co.—African		40,352
MAY 11.—By the <i>Kansas</i> =Liverpool:		
Reimers & Co.—African		11,641

MAY 13.—By the <i>Southwark</i> =Antwerp:		
George A. Alden & Co.—African		54,958
MAY 15.—By the <i>Valencia</i> =Hamburg:		
Robinson & Tallman—African		5,562
MAY 17.—By the <i>Sachem</i> =Liverpool:		
George A. Alden & Co.—African		11,215
MAY 31.—By the <i>Sylvania</i> =Liverpool:		
Robinson & Tallman—African	11,200	
Robinson & Tallman—Caucho	21,157	32,357
Total Imports		223,906
[Value, \$111,070.]		

GUTTA-PERCHA.

MAY 5.—By the <i>Bostonian</i> =London:		
George A. Alden & Co.		2,072
MAY 14.—By the <i>Columbian</i> =London:		
George A. Alden & Co.		2,271
MAY 15.—By the <i>Valencia</i> =Hamburg:		
Robinson & Tallman		400
Total		4,743

MAY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.	30,991	4,427	32,836	—	68,254	60,311	9,763	11,274	1,670	83,018	151,272
Frank da Costa & Co.	39,310	9,396	64,572	—	113,278	45,390	5,340	26,544	—	77,274	190,552
Adelbert H. Alden	84,020	22,136	97,111	1,986	205,253	59,203	6,407	18,886	—	84,496	289,749
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	12,187	6,198	4,924	—	23,309	23,309
Kanthack & Co.	—	—	1,032	—	1,032	16,692	6,805	4,786	—	28,283	29,315
Neale & Staats.	—	—	—	—	—	336	—	260	430	1,026	1,026
Denis Crouan & Cie.	—	—	—	—	—	3,952	526	4,017	—	8,495	8,495
R. Suarez & Co.	—	—	—	—	—	42,398	8,520	4,529	1,841	57,288	57,288
Pires, Teixeira & Co.	—	—	—	—	—	4,186	—	1,085	—	5,272	5,272
Sundry small shippers	—	—	—	—	—	—	—	102	951	1,053	1,053
Direct from Iquitos	—	—	—	—	—	22,890	2,546	15,222	102,725	143,383	143,383
Direct from Manãos.	358,275	88,244	120,094	175,311	741,924	203,094	42,482	73,240	142,762	461,578	1,203,502
Total for May	512,596	124,203	315,645	177,297	1,129,741	470,639	88,587	164,870	250,379	974,475	2,104,216
Total for July-April	6,320,528	1,585,747	3,708,040	910,118	12,524,433	8,278,202	1,585,915	2,360,898	1,737,549	13,971,564	26,495,997
TOTAL, CROP YEAR	6,833,124	1,709,950	4,023,685	1,087,415	13,654,174	8,748,841	1,674,502	2,534,768	1,987,928	14,946,039	28,600,213

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1902	5,283,691	297,459	4,986,232	April, 1902	5,806,080	2,899,344	2,906,736
January-March	14,505,944	940,675	13,565,269	January-March	13,880,608	7,175,616	6,704,992
Four months, 1902	19,789,635	1,238,134	18,551,501	Four months, 1902	19,686,688	10,074,960	9,611,728
Four months, 1901	23,343,062	1,060,360	22,282,702	Four months, 1901	18,206,964	9,513,616	9,693,348
Four months, 1900	19,479,343	1,698,538	17,780,805	Four months, 1900	24,259,536	11,492,432	12,767,104

GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1902	2,896,520	596,200	2,300,320	April, 1902	144,760	nil	144,760
January-March	7,036,700	2,682,020	4,354,680	January-March	370,260	42,460	327,800
Four months, 1902	9,933,220	3,278,220	6,655,000	Four months, 1902	515,020	42,460	472,560
Four months, 1901	8,477,480	1,873,300	6,604,180	Four months, 1901	627,220	69,300	557,920
Four months, 1900	10,471,340	3,534,520	6,936,820	Four months, 1900	513,920	—	513,920

AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1902	273,900	660	273,240
January-March	642,620	1,320	641,300
Four months, 1902	916,520	1,980	914,540
Four months, 1901	762,080	7,040	755,040
Four months, 1900	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.



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THE PROPER EXTRACTION OF LATEX.

A PROPOS of planting rubber, it goes without saying that vigorous growth of the trees is essential and an abundance of latex desirable. But these conditions might exist without profit to the owner. The great essential is that the latex be extracted without injury to the trees, at an economical cost, and be converted properly into rubber. It is by no means certain, if all the rubber trees now under cultivation should suddenly reach a productive stage, that the planters would be prepared to deal with the chief problem involved. Perhaps all the time that must elapse before the maturity of the recently formed plantations will not be too long for the study of the physiology of the rubber yielding species, and particularly in relation to the latex ducts and the conditions most favorable for emptying these.

On another page appears an interesting contribution to this study, by an eminent French botanist, M. Lecomte. One feature of this paper to which special attention may be directed is the suggestion that indiscriminate or reckless scarring of the trees, in order to obtain a present yield, is liable to break the connection between the latex ducts—not very close at best—and thus interfere with any future yield. Not much argument will be needed to impress this idea upon the mind of one who knows anything about rubber trees, but what method can be adopted that will minimize the unavoidable wounding of the bark in the extraction of rubber, say from such species as the *Castilloa elastica*?

RUBBER GOODS GROWING BETTER.

THE fact that rubber manufacturers use a variety of compounding ingredients in the production of their merchandise is now pretty generally known by the public at large. It is also universally misunderstood, the general belief being that compounding is nothing more or less than cheapening. Even those who are large buyers and are in close touch with the trade, who visit the factories and have ample opportunity for investigation, are prone to the same sort of error. For example, a well known builder of automobiles, holding forth before an interested audience at an "auto" club not long since, stated that the average tire contained not more than 10 per cent. of rubber with 90 per cent. of fabric and "mud." Certain of the listeners thought the statement extreme, but none appreciated the fact that the automobile tire would be built wholly of pure rubber to-day if it would wear better; that the efforts of the manufacturers are not directed toward cheapening, but toward durability and elasticity.

That intelligent compounding is in the interest of the user is proved by the exhaustive tests that prominent electricians have made of all types of insulated wire, where it was proved over and over again that compounded stocks were far superior to pure rubber, lasting longer and insulating better. The same is true regarding belting, packing, hose; indeed, all but the soft rubber goods, that demand a high degree of elasticity, and that alone.

When the science of compounding was in its infancy

pure gum was used very generally, and often with disastrous results. Later, when manufacturers came to know how great a variety of ingredients could be incorporated in rubber, it sometimes happened that the batch was "crowded" with adulterant to the detriment of the goods. Such a course hurt the business at large to a degree, but individual brands far more, and that soon corrected itself.

At the present time it is easily susceptible of proof that the average vulcanized rubber product contains a larger percentage of rubber than twenty years ago; in fact, to add more, would in many cases cause dissatisfaction on the part of the buyer. This sounds like an extreme statement and would be scoffed at by the ignorant, but it is nevertheless true. Take the rubber shoe compounds, for example. Years ago they contained plastic, white lead, and barytes, in addition to the ingredients used to-day, together with an amount of lampblack that was absurd. To-day the manufacturers have evolved a simpler, more practical, less loaded compound, and the product is far better.

Then, too, instead of moving heaven and earth for new earthy materials or metallic oxides, manufacturers have come to use reclaimed rubber in their places, and further have learned the value of African rubbers and many low grade gums that a few years ago found no market. All of these are rubber or rubber like, and in many cases take the place of dry adulterants, and at the same time add a definite quantity of Caoutchouc to the mass.

GOVERNMENTS AND CABLE MAKING.

DURING the recent discussion at Washington of Pacific cable projects the assertion was made repeatedly that "there is no company in the United States with experience in making and laying deep sea cables," and this was urged against every suggestion toward the construction of a cable with American capital, by American labor, and under American control. At one time or another a like assertion could have been made regarding every branch of manufacture that has since been developed in United States. Not so many years ago no modern warships had been built here, but when it was determined to create a new navy, there was no hesitancy on account of the fact that experience in such work was lacking in this country. No such argument prevented the signing of the contract for the great New York-Brooklyn suspension bridge, or for the subway transit work now in progress in New York, although the scope of these undertakings was in excess of anything of the kind that had before been attempted anywhere.

It is worth noting that the financial success of the first direct German-American cable, after only a year of working, has led to a determination to lay a duplicate cable. The first cable was not built in Germany, because sufficient facilities did not exist there, but the new cable, already under contract, will be built in that country—a line of 4142 miles, at a cost of \$5,000,000, which is a large single order for a cable. There is nothing peculiar in the submarine cable industry to prevent the rapid development of facilities for it when a market exists for the prod-

uct. The fact that a German cable factory has so speedily been developed to the point of securing so large an order is due to the sentiment of the people and of the government being favorable, and as a result of this important order the new German cable factory will take a long step forward as a competitor for cable building in general. But in the United States, so long as the benefit of every doubt is given to foreign cable makers, our cable industry can hardly be expected to make such progress as it might in more favorable circumstances—such, for instance, as have been seen in Germany.

THE REGULATION OF TRUSTS.

THE Trusts are to be attacked again. Congressman Littlefield, of Maine, is after them with a sharp new lance, giving out that he has a call to his mission from the administration at Washington. From what can be learned, his campaign contemplates four points of attack: Federal control of all corporations engaged in interstate commerce; power for the government at all times to obtain information as to the doings of such corporations; taxation of corporations having unpaid capital stock; regulation by the government of increase of capital stock.

Until the first point has been gained, the others must wait, and it is likely that several sessions will pass before a congress yet to be elected undertakes to assume control of manufacturing corporations because they happen to be doing business in more than one state at the same time. As for the second point, it follows that when the government has taken control of the corporations it will have power to obtain information; this hardly constitutes a separate ground of attack. The remaining points are very indefinite, since the nominal amount of capital stock of a corporation does not necessarily affect its methods of doing business, and this is where the interest of the public comes in, if at all.

It seems to us that Mr. Littlefield should first prepare the public for the proper appreciation of his campaign by explaining just what he means by a Trust. Then when the fight begins people will know just what are the objects of his attacks, and can better judge of the results. There are a good many people who imagine that all rubber interests whatsoever are controlled by the Rubber Trust, and that prices of rubber goods all over the world are fixed by it. And so with every other important industry. Does Mr. Littlefield belong to this class? If he does it is likely that he will see Trusts where a good many people will not, just as the renowned Don Quixote charged valiantly upon supposed wicked giants, which to other eyes were plain everyday windmills.

Economic development is bound to proceed in the direction which tends to the ultimate greatest good, regardless of legislative enactments. If the best efforts in industrial production are to be attained through consolidations of capital, this tendency can no more be prevented than the procession of the equinoxes; if the contrary is true, there will be a natural return to the old régime, in spite of legislation one way or another. But there have

always been men of the type who offer "salted" mines at a time when money is being invested freely in mines, and the fact that some industrial consolidations may have been formed for the sole benefit of promoters is no reason why the law should be invoked to prevent all consolidations. The law presumes that a citizen will use due caution to avoid, for example, buying a spavined horse; and a like degree of prudence will protect people from parting with their money for shares of unsound companies. And no law in the world can insure the soundness of a manufacturing company or guarantee profits—unless the government should assert not only control of, but responsibility for, every company which offers its shares to the public.

THE COMING WORLD'S FAIR AT ST. LOUIS.

THE extent and character of the work done already in connection with the proposed Louisiana Purchase Exposition, to be held at St. Louis in 1904, indicate that this is to rank among the really notable world's fairs. The "department of publicity" has not been particularly active, but this is just as well, since it will be time enough to begin to get the masses interested when the fair has approached readiness to receive them. But the work which has been done has been of that preliminary kind which relates to planning and organization and securing the co-operation of exhibitors of a class which shall make the exhibition truly representative of the material progress of the country.

A fact which may be of interest to possible exhibitors is that the coming St. Louis world's fair will be, in a much greater degree than any other exhibition ever held in the United States, a government enterprise. In addition to the appropriation of millions in money, the government has appointed a national commission which shall have an important voice in the conduct of the exposition, its approval being required of practically all the important functions of the management. For example, in the matter of awards the rules must be indorsed by the government commission, and the awards made must before issue be confirmed by the commission. The act of congress in relation to the exposition requires that periodical reports shall be made to the president of the United States, showing receipts and disbursements and giving a general summary of the financial condition of the exposition.

There is now assured the financial support necessary for the success of the exposition; a large amount of construction work has been done on the grounds and buildings which, by the way, are to be far more extensive than in any former exhibition, and the energies of the management—composed of men who are able to profit by their experience in former exhibitions, from Chicago down—are being devoted to securing the promise of exhibits from leading concerns in the various departments of industry and art best calculated to illustrate the progress of the period since the United States acquired the great Louisiana territory. But this is not to be merely an American exhibition. All countries are to be invited to be represented, and it appears probable that the recent activity of Ameri-

cans in foreign markets, and the attention which has been directed abroad to the United States as a competitor in international trade, will stimulate foreign manufacturers to exhibit their products side by side with those of this country to an extent that has not been witnessed at any former exposition.

The management are determined to be prepared for the date fixed for the opening, and in order to do this, and in fact in order to know what provision will be necessary, it is requisite that the amount of space required by intending exhibitors shall be known a good while in advance. For this reason, it is urged that every manufacturer who may be a possible exhibitor shall communicate with the management soon with regard to the accommodations likely to be wanted. It may be mentioned that the management proposes to depart from the usual practice of great fairs, and to make no charge for exhibit space, and abolish charges for power, light, and such facilities as may seem reasonably necessary for the best presentation and operation of a desirable exhibit. The idea is that the manufacturer shall be called upon to incur no expense beyond the cost of putting his exhibit together and transportation, and the management hopes to reduce the latter item very materially by special arrangements with the railways.

It is stated that the government thus far has appropriated \$5,000,000 to the general funds of the exhibition, in addition to about \$1,300,000 in connection with the proposed government exhibit and a building to hold it. The director of exhibits is F. J. V. Skiff, who was identified in an important way with the Chicago world's fair and with the United States commission to the Paris Exposition of 1900.

Thomas M. Moore, who was chief of the department of machinery at the Pan-American Exposition, will sustain a like relation to the St. Louis world's fair, and it may be mentioned that in his department—Machinery—provision will be afforded for such India-rubber exhibits as are classified as "mechanical goods." Other lines of rubber products will have equally good provision for their display in other departments of the exposition.

GIVING IT A NAME.

ACCORDING to ancient record, one of the first tasks set for the lusty father of the human race was the selection of original and euphonic names for the representatives of the animal kingdom. Before that time hopeless confusion reigned because none of them knew what they were. A little reflection on this point will make it clear how embarrassing it must have been for a respectable rhinoceros to be in doubt as to whether he were a monkey, a giraffe, or a polecat, or for a bull elephant to suspect that he might be a mouse.

Since that time one of the chief occupations of the descendants of Adam has been that of giving names—countries, states, cities, towns, everything animate and inanimate has demanded a name. Living and dead languages, fiction and fact, all the wide realms of human thought have been called into service in the great and ever increasing demand for names. It is not strange, therefore, that some confusion exists, and that when it

comes to the naming of a new rubber company staid business men knit their brows, and incorporators look blank. An analysis of the names of 150 of the leading American rubber factories develops a similarity of mental process that is interesting, for it shows six groups of names, divided as follows:

Personal (Goodyear, Bourn, etc.).....	60
Geographical (Boston, Chicago, etc.).....	50
Patriotic ("American," "Republic," etc.).....	10
Eulogistic ("Peerless," "Monarch," etc.).....	15
Descriptive (Mechanical, Seamless, etc.).....	15

Thus it is seen that the general judgment, which is quite apt to be right, is in favor of the personal nomenclature. It is in fact as if the founder of a company said: "This is the child of my brain; I am proud enough of it to give it my name, and stand behind it." But the geographical suggestion presses it quite closely, and with reason. With but one rubber mill in a city or town it saves confusion to use that name in incorporating, but the second factory upsets all that. The descriptive name stands next in utility, and no doubt if it were possible would be more largely employed, but the American business man loves not a long signature, no matter what it may mean. The patriotic and eulogistic types have their genesis in the best of motives, but through constant use the significance of the word is entirely lost sight of, and one coined would serve the purpose as well.

It would hardly be fair to thus dissect names that are to-day household words, that stand for progress, fair dealing and success, unless it were to suggest to the new companies yet to come that they might be the pioneers in a more serviceable style of naming. The ideal name will be personal-geographic-descriptive-brief. For example: "The Goodrich, Akron, Vulcanite Co.," or "The Forsyth, Boston, Soft Rubber Co."

THE LATE JOHN WILLIAM MACKAY will be remembered in connection with his work in the extension of submarine cable lines, when the stories of his great fortune acquired as a miner shall have been forgotten. Had he lived as long as the late Sir John Pender—who died at 80—Mr. Mackay might have found himself at the head of a telegraph system as important as that organized by the former. Both men had many qualities in common, and Mr. Mackay distinguished himself by accomplishing work in the new world not less difficult than that done by Pender in an earlier period in the old. He left an Atlantic cable system of over 13,000 miles, an assured Pacific cable line of half this length, and an extensive land telegraph system in the United States, all of which ultimately will form one great bond of communication between Europe and Asia—across two oceans and a continent. Mr. Mackay was not merely an organizer; he worked with his own capital, without any subsidies or privileges from any government, and in most cases against enormous obstacles in the shape of older and strongly entrenched interests.

A GOOD MANY PEOPLE INTERESTED IN RUBBER PLANTING are unnecessarily disturbed by the announcements, which appear about every new moon, of some new "substitute" that is going to "revolutionize the rubber industry," and, as a headline in one Boston newspaper expressed it, render "rubber trees unnecessary." Now no article of commercial utility can be made of pure rubber, and in most products of the rubber factory a very considerable percentage of material other than rubber is required in the "compounds," to produce the best results. The only value that any so called rubber "substitute" ever possessed was as an ingredient for mixing with rubber; the word "substitute," in fact, is a misnomer, for no substance yet

discovered can be used to replace rubber entirely in the manufacture of goods. The increase in the number of useful compounding ingredients has had the effect of lessening the cost of rubber goods without making them less serviceable, with the result of extending the use of such goods, and thereby increasing the demand for crude rubber. The more good rubber substitutes, therefore, the better for the rubber planter. But not every "substitute" so lavishly extolled in advance of a practical test ever comes into use. The less some people know about rubber, the more certain they are that some waste factory product for which no other use can be imagined will make "the best rubber substitute in the world." But the producers of rubber, whether on plantations or in the forest, need not regard artificial rubber as a possibility until they find themselves able to pay for it with artificial gold as good as the native metal.

THE TREATMENT OF THE NATIVES IN THE CONGO, and particularly those employed under Belgian auspices in the collection of India-rubber, has of late occupied the energies of the Aborigines Protection Society, an English organization which, for more than sixty years, has concerned itself with ameliorating the condition of the natives of many lands. Recent numbers of the society's journal, *The Aborigines' Friend*, contain statements in regard to the Congo "horrors" likely to make a manufacturer who has used Congo rubber feel accessory to wholesale murder. But the manufacturer might console himself with the reflection that possibly all rubber from the Congo has not been reddened with native blood, and that his own purchases are from honestly collected lots. But, seriously, the Aborigines society appears to be able to do nothing but listen to addresses which make one's flesh creep, and then issue appeals to the authorities. If they should propose something really practical in the way of remedying the abuses which undoubtedly exist in places, rubber men, as well as other people, might cooperate in making the situation better.

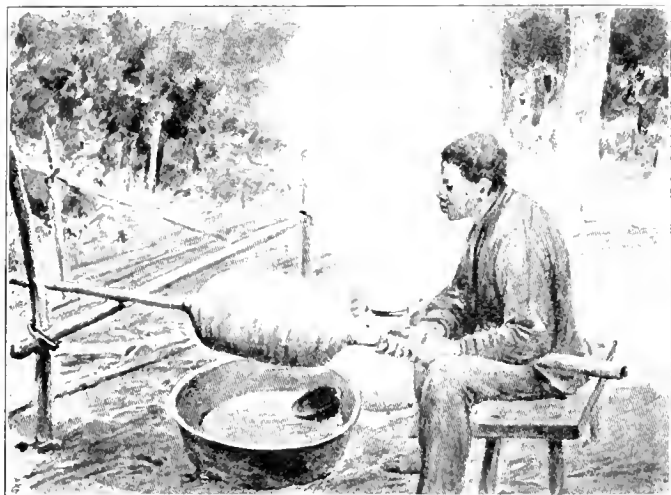
"RUBBER HAS BEEN ENTIRELY SUPPLANTED in the manufacture of hose," says a Philadelphia newspaper. The idea is not that rubber men have become able to make up their hose compounds without rubber, but that metal hose has come into use having "all the flexibility of rubber." The Philadelphia paper not having copyrighted its information, we feel free to use it, for the benefit of several manufacturers who continue to make rubber hose, probably in ignorance that their product has been "supplanted."

THE RUBBER TRUST, according to several veracious newspapers, is at the bottom of the trouble over the Acre concession, in South America. If this be true, it would seem that the Rubber Trust is capable of being stretched around more things than rubber itself.

AUSTRIA NOW HAS A RUBBER JOURNAL—the *Gummi-, Guttapercha-, Asbest-, und Celluloid-Zeitung*—an interesting little paper lately started at Vienna. Its appearance may be regarded as indicating a growth in the extent and profits of the industries referred to in that country.

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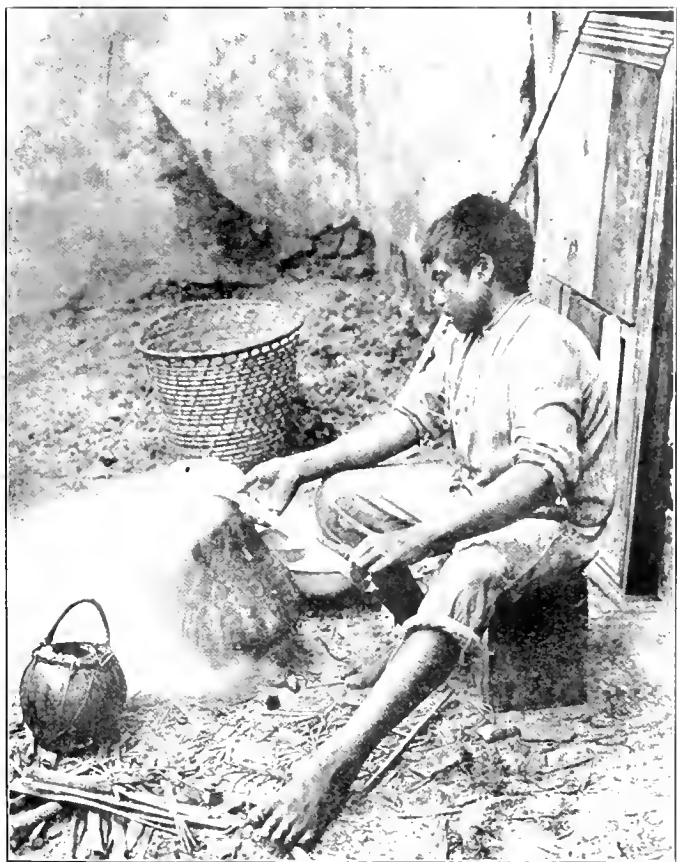
THE statement appears in *The Brazilian Review*, of Rio de Janeiro, for June 17, that "Mr. Murdoch, manager of the Amazon Telegraph Co., at Manaus, has brought a suit for slander against the editor of THE INDIA RUBBER WORLD."



SMOKING RUBBER WITH PALM NUTS.

This is the method now most generally used. The "pelles" thus made—also called "biscuits" or "hams"—weigh generally 30 or 40 pounds, but sometimes much more.

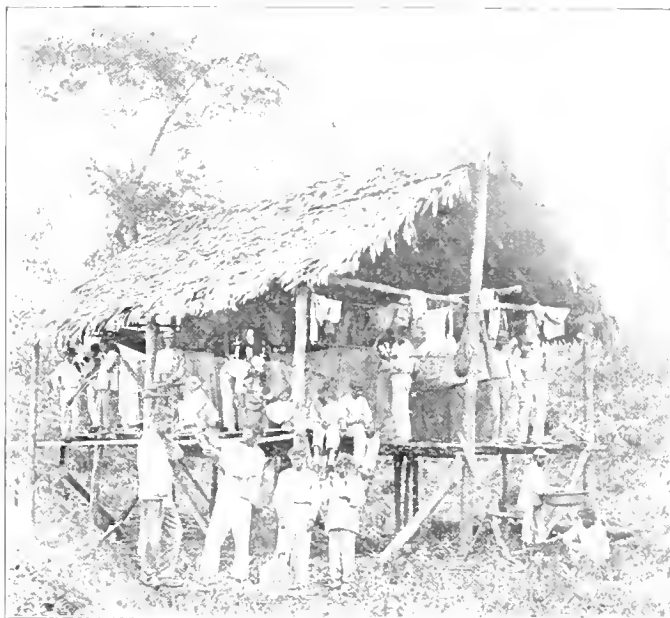
From "Der Kautschuk und seine Industrie," by Dr. Karl Hassack, Vienna, 1901.



SMOKING RUBBER WITH PALM NUTS.

The earlier and now little used method of employing a paddle, by which smaller "biscuits" are prepared.

From "Arboretum Amazonicum," by Dr. J. Huber, Pará, 1901.



DWELLING OF RUBBER GATHERERS.

Built on poles for protection against the rise which annually takes place in the rivers. Hammocks are covered with mosquito nets—a very necessary precaution.

Photographed for THE INDIA RUBBER WORLD by B. Telles, Maniós.



STOCK OF RUBBER AWAITING SHIPMENT.

A pile of "pelles" made by the process shown in the first illustration on this page.

Photographed for THE INDIA RUBBER WORLD by B. Telles, Maniós.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

AS a continuation and modification of the remarks tendered under this heading last month, it is by no means an exaggeration to say that things have been very bad indeed, as regards the proofing trade. Some divergence of opinion exists with regard to the cause, though none

STATE OF
TRADE.

at all with respect to the effect. It is probable that we shall arrive at the most correct opinion by attributing the slump in business to a concatenation of causes having little or no connection with each other. To enumerate one or two of these, we have the lessened rainfall, the decreased buying power of the public owing to general slackness of trade, and also the increased use of the rainproof garments. The two former causes may be looked upon as temporary and representative of conditions which may easily be reversed; as much, however, cannot be said for the rainproof competition, it becoming more and more evident that the genuine macintosh business has received a severe blow from this source, especially with the better class of customers. The strongest advocate of rubber clothing must perforce admit that where an umbrella is used in conjunction, the advantage both as regards general comfort, hygiene, and lasting capacity lies with the rainproof material, and if prediction is permissible, I certainly think that the macintosh of the future will be largely limited to two classes of wearers, viz.: sportsmen, coachmen, and others who do not carry umbrellas, and the wearers of the dubiously waterproof cheap goods. This opinion is not advanced with any feeling of exultation, but rather in the tone of regret, but there is no use blinking the signs of the times; *præmonitus præmonitus* writ large in the mind's eye is less likely to lead to business losses. Turning for a moment from cause to effect, one rather awkward feature of the slackness in the proofing trade has been the inability to take in the naphtha contracted for. Even if rubber firms had sufficient storage room, they do not care to stock large quantities of such inflammable material, the usual procedure being to have a certain quantity delivered weekly. No doubt some compromise will be arrived at between the tar distillers and the proofers, though, of course, as regards the contracts, the former are in the better legal position. Certainly the month of June saw best solvent naphtha offered at exceptionally low rates, which is at once indicative of a supply being thrown on the market. Despite the improvement that has undoubtedly manifested itself in the mechanical rubber trade there really is very little ground for assuming that a better tone is likely to develop in the macintosh department.

THE relations existing between the rubber manufacturer and the merchant must of a necessity depend for their amicable

A MIDDLEMAN'S
DILEMMA.

continuance largely on a feeling of good faith as far as the latter is concerned. The average merchant who buys macintoshes, say for home or export trade, does not know anything about rubber, and he has to rely explicitly upon the word or the guarantee of the rubber firm that they fit and are proper goods for their purpose. Disputes, however, though not at all frequent, do arise, and it is then that the technical ignorance of the merchant is apt to become painfully clear. It suggests itself as advisable that firms dealing with large quantities of waterproofs should acquaint themselves to some extent with the manufacture, or else make a business arrangement with some expert to make a

rough examination in cases where large quantities of goods are being shipped abroad. There have been cases where, owing to some oversight in the manufacture, goods which were supposed to be perfectly vulcanized, and as to which a guarantee had been given, have been shipped to cold climates and given the utmost dissatisfaction. This, of course, means loss of reputation to those retailing the goods, a loss which is by no means necessarily rectified by the settlement of claims. A merchant who had suffered a loss in this way said it would be far too expensive a matter to have the goods tested before despatch, but I think he exaggerates here, and it must be remembered that there is a wide difference in the charge made for isolated analyses and for testing work later in quantity or by contract. Anyhow, whatever course of procedure may be adopted, it certainly seems that the merchant would be well-advised to dissipate to some extent the Egyptian gloom which surrounds his knowledge of the technology of waterproofing, even if only to enable him to put leading questions when entering into contracts. With regard to the important question of guarantees as to withstanding extremes of temperature, it certainly may be safe enough to give such for a good rubber proofing, but in the case of some of the recovered rubber proofs which have been fashionable of late, considerable caution should be exercised, both as to giving and receiving them if litigation is to be avoided.

WITH regard to the rubber sponge, success seems to have provokingly eluded the grasp of those who have essayed its

A DEFICIENCY
IN OUR
MANUFACTURE.

manufacture. Were the experiments of individual firms considered fit subject matter for discussion here, somewhat melancholy would be the recital of the failures experienced. Specimens are in existence which look and feel as if they had been subjected to influences similar to those which wrought such disaster in Pompeii. I do not suppose that a sponge of the nature and consistency of pumice stone is at all conformable to the ideas of the merchants, as is likely to lead to the existing demand, as testified to in the May issue of THE INDIA RUBBER WORLD, being satisfied wholly or in part by Great Britain. Of course I don't profess to be in a position to speak as if I were conversant of all that has been done in this branch, and it may be that I am quite in the wrong in assuming that it is not possible at the present time to report any real progress. It will be admitted that results are the most unimpeachable of formulas, and it is to them that we must look for proof that we have got on terms with Russia in this particular branch of the rubber business.

THE news of the collapse of the projected Henley-Callender combine came as a surprise, it being generally thought that the union had been effected. Evidently difficulties of a serious nature must have arisen, though of course their details are not likely to become public unless in a surreptitious manner. It is noteworthy

CABLE
COMPANY
NOTES.

that a prominent reason given by the British Insulated Wire Co. and the Helsby company for their union was "the important combination recently effected in the trade"; of course there is no reason why the London *contrectemps* should have any influence upon the prospects of the more northerly combine, the details of which appear to have been amicably settled in a very brief space of time. The Prescott works are, it may

be mentioned, to be visited by parties of the members of the Society of Chemical Industry on the occasion of the annual meeting at Liverpool in July.—The inquiry recently held by Judge Parry into the certain alleged scandals in connection with the Salford (Manchester) electricity works has resulted as was generally expected in Messrs. W. T. Glover & Co. being exonerated from any imputations cast upon their *bona fides* with regard to the large cable contract which they obtained last year.—Seeing the great increase of electric traction, one would have thought that there would have been plenty of work for the cable, and that close competition would not have arisen. The present competition is, however, very severe, and it must, one would think, lead to a reduction of the substantial dividends which have been paid by the various companies during the last two or three years. There does not, however, seem any possibility of a general combine, and it is rather to be feared that a further cheapening of the rubber on familiar lines will be had recourse to as a way of obtaining business. As regards submarine work, those cable firms engaged therein seem to have been successful in assuring their shareholders that the development of the Marconi system does not necessarily spell immediate ruin to them.

THIS is one of those chemicals which have had a somewhat chequered career in the rubber trade. Known also under the names of Block sulphur and Metallic sulphur, it has long had a limited application for certain purposes. This brand of sulphur is sold either quite pure or containing about 25 per cent. of sulphate of lime, which, however, is not a direct addition but the result of the particular system of manufacture employed. Unless the sulphate of lime quality is sold cheaper than the pure, the rubber manufacturers would certainly seem to be in error in buying it in place of the pure. The special qualities possessed by precipitated sulphur over ordinary flowers of sulphur are neutrality, greater solubility in naphtha, extreme fineness of division, and a decreased tendency to bloom up. The great disadvantage seems to lie in the price, which is considerably higher than the best qualities of flowers, though it should be mentioned that a less proportion can be used. It is understood that Lufbury & Chardonner, the well known French rubber chemists, have given up the precipitated sulphur manufacture, owing to the small demand, and quite recently The Union Alkali Co., of Soho Works, Manchester, have circularized their customers that they can only continue to supply at an enhanced price. No doubt if large orders were obtainable, the stuff could be supplied at a lower price, but it is not surprising that chemical manufacturers prefer to utilize their space and plant to better advantage. There is no doubt that mistakes have been made by those who have used this sulphur without acquainting themselves with its special properties, and a fear of a repetition of such mistakes has certainly militated against its use. Precipitated sulphur, it may be added, is in general use as a component part of orange sulphide of antimony, it being to its influence that the result of vulcanization by antimony is really due.

I SEE that a presumably serious proposal is on foot to manufacture rubber from banana skins, though the intermediate details are not yet available for comment. However, though I am very sceptical as to the result, I am not in a position to say that it is all humbug. I must say, though, that the proposal bears some similarity to one emanating from London not so long ago. The material in this case was the wild plantain which grows in the West Indies, and a certain individual now employed out there conceived the idea of converting this into rubber. This he averred that he had done

and showed some pieces of undoubtedly genuine rubber to capitalists in London, to whom he confided his anticipations of the wealth to be realized by the adoption of the process on the large scale. His story certainly sounded plausible to those unacquainted with the technology of rubber, but its extreme improbability was easily apparent to the initiated. A suspicious circumstance was found in the fact that the inventor insisted on keeping the details of the process secret, something on the lines of the electric sugar swindle at Liverpool some years ago. On my first introduction to the case, I felt sure that, to put it mildly, the inventor was suffering from hallucination, and that the pieces of undoubtedly genuine rubber he was showing in the City had never had any connection with the wild plantain. When awkward questions were put to him he sought a refuge in the fact that the chemistry of rubber is incompletely known, and that the chemist, expert or otherwise, was quite unable to follow the reactions of his process. The adoption of such a tone was not, however, quite reassuring to the capitalists who were taking the matter up on the strength of the inventor's representations, and the scheme for bringing out a syndicate which had been rather too rapidly drawn up had, perforce, with sighs of disappointment, to be consigned to the waste paper basket. I have referred to this matter at perhaps greater length than necessary, but it is advisable to point out that new things in commerce are always being hawked about the City of London, and that there are plenty of financiers of a sort who will enter into projects willfully blinding their eyes to palpable inaccuracies of statement and fact.

ALTHOUGH the wide field from which the recipients of Coronation honors did not include any representatives of the rubber trade, by reason of their connection with commerce, it is of interest to note that Colonel Richard K. Birley, V. D., of the Seventh Lancashire Artillery Volunteers, a director of Messrs. Charles Macintosh & Co., Limited, received a Companionship of the Bath as a reward for military zeal. The C. B., it may be said, has been very sparingly distributed in the auxiliary forces, and the honor is anything but a barren one—that is as a recognition of merit.—The compulsory order which had been sought to effect the winding up of the Hyde Imperial Rubber Co. was refused at the adjourned hearing at the Stockport county court. The works will go on, therefore, though it cannot be said that an era of prosperity seems to be imminent.—Considerable additions have recently been made to the premises of the Irwell Rubber Co., Limited (Manchester), the business having increased to an extent which necessitated capital expenditure in this direction.—With regard to a statement I made recently concerning the ownership of the Collier motor tire, a slight inaccuracy crept in. The tire is the property of Mr. Baxter, and not jointly that of the Leyland and Birmingham Rubber Co. —Litigation is still proceeding between the Dunlop company and the Clifton Rubber Tyre Co., the owners of the Wapshare tire. The directors of the Clifton company, it may be mentioned, are the directors of the Leyland and Birmingham Rubber Co.—The recent death of Mr. Frank Shaw removes a familiar figure from the ranks of rubber machinists, though the machinery in which he specialized will continue being made at the old address.—I hear that the Dermatine Co., Limited, of Camberwell, London, are experiencing a lively demand for their specialities for hydraulic engineers. It has not unnaturally taken some time for "Dermatine" to show its superiority to leather or rubber for hydraulic purposes, and it is gratifying to be able to testify to the success that has attended the untiring efforts of Mr. John Cooper, the genial managing director.

PRECIPITATED
SULPHUR.

SUNDY
NOTES.

ARTIFICIAL
RUBBER.

THE LATEX BEARING DUCTS OF THE RUBBER TREE.

By Henri Lecomte.*

THE latex of the caoutchouc plants is contained in laticiferous channels, whose distribution varies with the nature of the plant and perhaps also with its biological conditions. It is evident that an exact knowledge of the distribution of the laticifers (the latex bearing ducts) is indispensable for fixing the regulations of methodical work. Unfortunately, this study has been neglected, so that the processes of extracting the latex are altogether empirical. My present intention is not to consider all the cases that may arise, but simply to call attention to certain facts and considerations, which may enlighten experimenters in their researches.

For example in the *Landolphia Heudelotii*, which furnishes the larger part of the caoutchouc exported from the Senegal, the Soudan, and Guinea (in west Africa), it is easy to recognize from a cross section of the liane (climbing plant), that the laticifers are especially distributed in the middle portion of the bark, but are almost altogether lacking in the outer portion, as well as in the zone nearest the wood.

To reach the laticifers, there is therefore need of penetrating through the bark. The laticifers of the *Landolphia Heudelotii* are long tubes, ramified and anastomozed, whose diameter varies from 30 to 45 thousandths of a millimeter. These laticifers extend principally along the stem, but, as I have said, they are ramified, and these ramifications take a direction more or less oblique.

A transverse section *a b*, of determined length and depth, may, for example, encounter a number of laticifers and produce a proportionate number of orifices from which the latex will flow. A longitudinal incision *c d*, of the same length and depth, will meet a much smaller number.

The inspection of the figure (1) will render further explanation superfluous; but it is not difficult to demonstrate the fact, at least in the case of the *Landolphia Heudelotii*. It is known

—and this is the point of departure of the processes of the extraction of the caoutchouc from dry bark—that the latex coagulates spontaneously in the laticifers of the bark when it dries, so that each laticifer of dry bark contains a very thin filament of rubber. If a piece of dry bark is broken, and the two fragments separated carefully, they are seen to be united by a multitude of rubber filaments, the number being equal to that of the laticifers encountered by the section (Fig. 2).

Let this section be made perpendicularly to the length of the stem, or parallel to this length: the filaments are still found in large number if the section is crosswise, but in small number only if it is longitudinal. Fig. 3, drawn from nature, exhibits this clearly. A piece of



FIG. 2.
Two pieces of bark broken apart crosswise, but still connected by a large number of caoutchouc filaments.

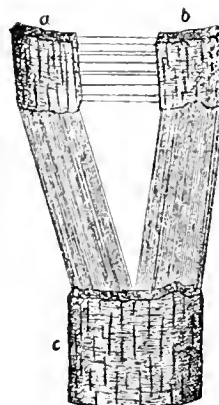


FIG. 3.
Illustration exhibiting the caoutchouc filaments connecting two strips of bark.
Between *a* and *b*, the filaments proceeding from the transversal incisions.
Between *a b* on one side and *c d* on the other, the filaments correspond to the laticifers encountered by a cross-section.

bark of rectangular form was separated in two parts by a perpendicular section along the length of the stem; the two portions were still connected with numerous filaments of rubber. If one of these fragments was afterwards broken in two parts, by a section parallel with the axis of the stem, and the two parts *a* and *b* separated, as shown in Fig. 3, they were seen to be connected by a small number only of thin threads of rubber, because such a section meets a much less number of laticifers than a cross section of the same extent.

We may, therefore, consider it demonstrated that two equal incisions made in the bark will encounter very different numbers of the laticiferous ducts, according as the section is longitudinal (few laticifers), or transverse (many laticifers); it is not difficult to conclude that the cross section will cause a much greater quantity of the latex to flow than the longitudinal section. This is very easily shown on living climbing plants belonging to the genus *Landolphia*.

I have also verified the fact on a young *Castilloa elastica*, which was placed at my disposal by Messrs. de Vilmorin. Dr. Morris, in his Cantor lectures, published in the *Journal of the Society of Arts* (London), has stated that in the trees of the genus *Hevea*, cultivated in the Henaragoda garden in Ceylon, other things being equal, the oblique incisions (45°) produced about twice as much as the vertical incisions.

The transverse incisions have another advantage with reference to the gathering of the latex. In consequence of the constant growth of the ligneous cylinder surrounded by the bark, the latter, not following this growth, is stretched more and more, like a too narrow garment, around too voluminous a body. It is this tension of the bark which causes the longitudinal cracks, so characteristic, for example, of the surface of the bark of an oak tree. If an annular cross band of bark is removed from the trunk of a tree, and the attempt afterwards made to replace it at the spot from which it was taken, the two extremities will not meet.

It is precisely this tension which causes the flow of the latex, which the capillarity would keep, in the absence of this intervention, in the interior of the laticiferous ducts. In making a cross section, the tension of the tissues above and below this section is not modified. The result is that the latex will flow as freely as possible. A longitudinal section, somewhat extended, would, on the contrary, produce different results, for

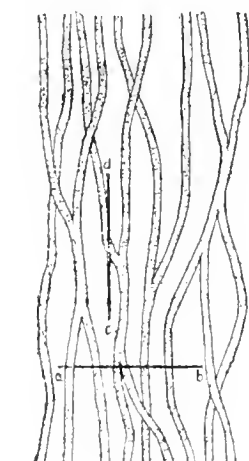


FIG. 1.
Theoretic representation of the arrangement of the laticifers.
a b—Cross section meeting six laticifers.
c d—Longitudinal section meeting only one laticifer.

* Translated from the *Journal d'Agriculture Tropicale* (Paris, April 30, 1902) for THE INDIA RUBBER WORLD. The suggestions contained in this article were presented in a popular lecture on "Caoutchouc and the Plants which Furnish It," delivered by this botanist at Paris, on March 4, under the auspices of the French Association for the Advancement of the Sciences.

the two lips of the wound would tend to separate, and the tension would become feebler.*

As is seen, several causes contribute to render more efficacious the transverse incisions of the bark, with reference to the flow of the *latex*. But are these sections to be exclusively recommended? That is not my opinion; for the cultivator ought not merely to have the present harvest in view, but the possibility of future harvests. From this viewpoint, the transverse incisions may be disastrous, and the more so as they are the more extended.

Every wound made in a bark produces a scar more or less rapidly by the formation of new tissues, and from this fact the laticifers, at first continuous, are separated into portions, the shorter as the incisions are the nearer. It necessarily results that the future incisions meet only fragments of laticifers, yielding only a small quantity of *latex*.

In my opinion, and for the reasons mentioned above, it would be suitable, if transverse or oblique incisions are to be made in a shrub or tree, to first make a number of incisions at the same height—say 3 meters from the ground—then to commence afterward a little lower, and so on until the last incisions occur near the ground. Then, on leaving the tree at repose for a sufficiently long period—at least a year—new tissues will be formed in the interior of the bark and in these new tissues prolongations of the original laticifers will penetrate. After this period employed by the tree in producing new tissues, containing laticiferous ducts, incisions can be made again, identical and in the same order.

In no case should completely annular incisions be made. This will prevent the circulation of the sap and compromise the life of the plant. Too wide incisions (distance between the edges of the incisions) should also be avoided; for the healing of the wound is the longer and more difficult in proportion as the edges are further separated from each other.

It will not be difficult to fix upon the plan of a certain number of methodical experiments and observations, which persons living in the tropical regions, and having at disposal rubber trees or plants, might undertake. The results of such an inquiry would be important with reference to the future of the plantations of caoutchouc which of late are coming into existence so generally in all the tropical regions of the globe.



FIG. 4.

This view, not presented with M. Leconte's paper, illustrates a prevalent method of cutting the rubber tree (*Castilloa elastica*) in Mexico.

*It is not correct to say, as Bouysson has in the *Revue Generale des Sciences*, that the *latex* is a kind of ascending sap. I do not think that any proof whatever has been yet presented of the circulation of the *latex* in the ducts. The fact that the *latex* flows unequally at the lips of an incision is a direct consequence of the difference of tension of the tissues on the different sides of the incision, and the flowing may naturally be greater at the upper lip of the section than at the lower. This I have verified with the *Landolphia florida* in the hothouses of the Museum. The fact that the incisions made near the ground (*Hevea*) produce more *latex* than the same at a height of 2 or 3 meters can scarcely be explained except by a difference of tension of the tissues at different heights.

H. L.

THE "PACIFIC RUBBER CO." GETS TIRED.

WITH the approach of hot weather, the fraudulent "Pacific Rubber Co." seems to have grown tired. The Pacific company has been mentioned in this paper before. First it claimed to have been incorporated in Maryland, but the state officials there denied any knowledge of the fact. Then it announced the purchase of an "established property yielding rubber" in Mexico, though the reputed seller still claims not to have made any transfer. The Pacific company's "long card" was its promise to "pay 360 per cent. in three years." It promised to pay monthly dividends at the rate of 20 per cent. per year, for three years, and then return the par value of the shares, after having first sold them at a discount of 75 per cent. It appears that monthly dividends were paid for awhile, beginning July 5, 1901. THE INDIA RUBBER WORLD at one time pointed out how the company might be able to pay dividends, as follows:—

They will sell as much stock as you want for cash (which they deposit in bank) to the extent of, say.....	\$1,000
They can afford to pay monthly dividends at the rate of 20 per cent. per year, for two years, amounting to	400

After which they will have left	\$600
—minus cost of advertising, printing, and office administration.	

A purchaser of "Pacific Rubber Co." shares informs THE INDIA RUBBER WORLD that he received monthly dividends regularly up to and including March 5, 1902. Getting nothing in April, he began to ask why. The "United Securities Co." (No. 66 Broadway, New York) wrote, April 10:

Owing to the great increase of the number of stockholders, it has been found impractical to send out all the dividends in one day, and as they are constantly increasing in number, the Rubber Company are sending out a circular letter stating fully that the directors have decided to pay the dividends quarterly hereafter, which will mean a saving of a considerable amount of money to them monthly, there being then but four months in the year in which to write up the books, make up the amounts of dividends and mail same, instead of doing this twelve times in the year, which will make a vast saving in clerical work.

After waiting in vain for a quarterly dividend on June 5, this shareholder called at the Broadway office, only to be told that "the treasurer was sick," but that "everything would be all right," after which he received a letter dated June 21, stating:

Our contract with the Pacific Rubber Co. having expired, we have been endeavoring to secure a reappointment as fiscal agents, and as the president of the company is expected here within a short time, we have no doubt the matter will then be satisfactorily arranged, and the question of dividends taken up and attended to. We will keep you fully advised as to this matter.

But information regarding rubber has been a very scarce article at No. 66 Broadway since the date referred to. By the way, the report of R. M. Miner, "treasurer" of the Pacific Rubber Co., to be sent from Mexico to the shareholders, as promised in a circular copied in THE INDIA RUBBER WORLD of January 1, 1902, never reached the persons to whom it was mailed.

To revise somewhat the financial scheme above reproduced from THE INDIA RUBBER WORLD of September 1, 1901, the plan of working appears to have been as follows:

Paid in by a shareholder, say.....	\$1,000
Deduct 9 monthly dividends at the rate of 20% a year.....	150

After which the company would have left	\$ 850
—minus cost of advertising, printing, and office administration.	

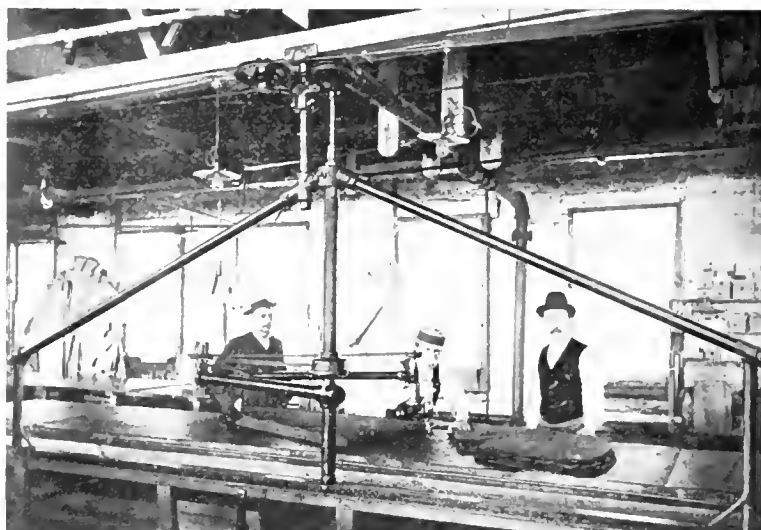
What need had the "Pacific Rubber Co." of the milk from rubber trees in Mexico, or anywhere else, when investors nearer home could be "milked" in this fashion?

RUBBER FACTORY EQUIPMENT AND PROCESSES.

THE CUTTING OF RUBBER-COATED FABRICS.

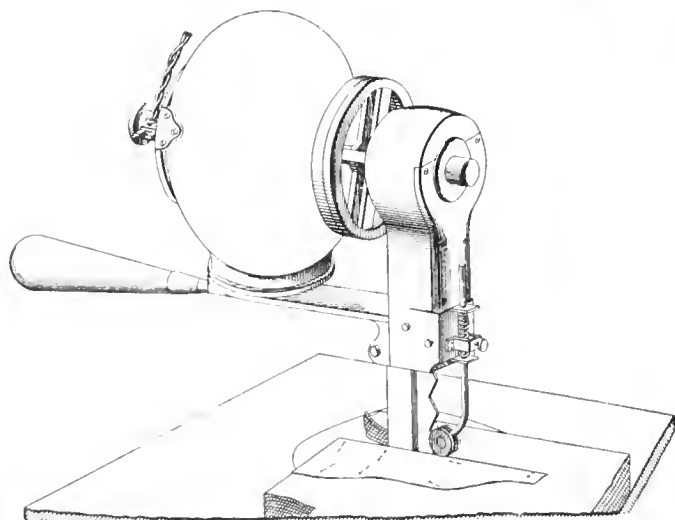
IN the early days of the India-rubber industry the cutting room in factories devoted to the making of rubber clothing was a department that required a great deal of attention, and was also an item of considerable cost in manufacturing, for the cutting was nearly all done by skilled workmen by hand. Suitable patterns were first provided, and then as many thicknesses of rubber coated cloth as could be cut through were handled by the cutter. Many of these cutters by their skill, strength, and ability to keep their knives in good condition, were able to earn large wages. Of course, for small parts that go to make up the garment, dies could be used in connection with the dieing out of the press. When the rubber clothing and mackintosh business, however, came to be a more important factor, various machines, such as are used in the manufacture of ready made clothing, were adapted to meet the wants of the rubber men.

At first this proved to be a difficult problem, for the cutting knife used on cloth alone is not a suitable



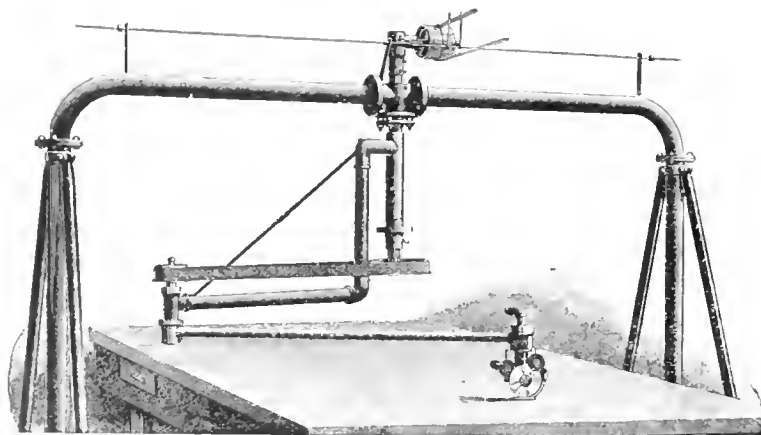
THE NATIONAL CLOTH CUTTER

Operated by Power or Compressed Air. Reciprocating Knife.



THE BAIRD CLOTH CUTTING MACHINE.

Electrically Operated. Reciprocating Knife.

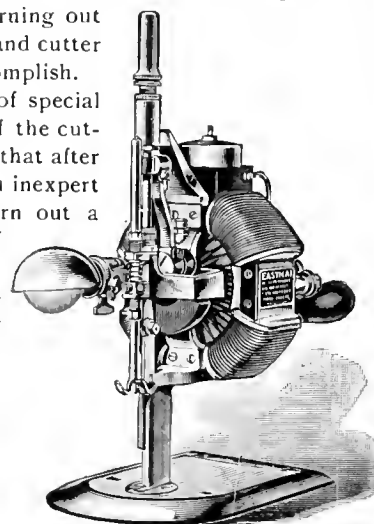


THE FENNO CLOTH CUTTING MACHINE

Operated by Power. Rotary Knife.

instrument with which to cut both cloth and rubber, nor is the broad presser foot in ordinary use applicable to this sort of work. A curious fact in connection with the solution of this problem is that the companies making the best grades of goods and using the richest compounds, had the greatest trouble in securing a cutting machine that would do the work rapidly and evenly. To-day, however, nearly all the large rubber clothing manufacturers have some sort of a machine for cutting the garments in bulk. There are several types of these machines. For a cutting surface they depend either upon a round knife running at a high rate of speed, and usually fitted with a self sharpening device, or a reciprocating knife or chisel and are operated by power transmitted by belt, or by small electric motor. They are so built that they can be moved to any part of the large table, on which the cloth in many thicknesses is laid, and easily follow the chalked lines left by those who prepare the work. The knives easily cut through plies of three or four inches in thickness, following curves or angles, with perfect accuracy, and turning out infinitely more than the hand cutter can possibly accomplish.

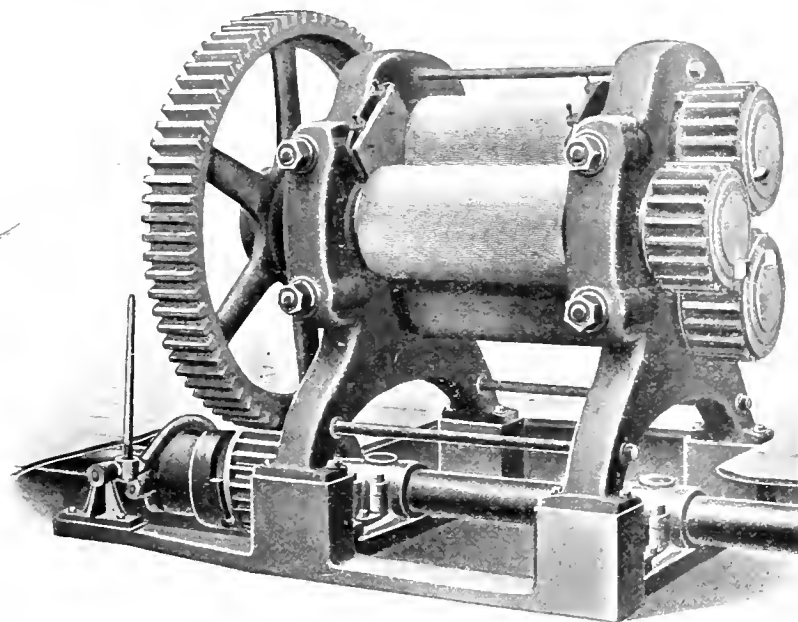
Another point of special value in favor of the cutting machines is that after a little training an inexperienced workman can turn out a great amount of work. The usual manner of preparing the work for the operator is to have it laid out on two tables, the machine being placed between. When one tableful has been completed the workman swings the ma-



EASTMAN CLOTH CUTTING MACHINE.

Operated by Electricity. Reciprocating Knife.

chine over to the opposite side, and by the time he is through with that, the other table is ready for him. The power required to run this machine is, of course, only nominal, as it is only applied to the cutting knife. Certain machines are placed in the trade on a royalty, while others are sold outright. In connection with this article are shown leading types of cloth cutters, operated by power and by electricity.



AN AMERICAN THREE ROLL WASHER.

THREE ROLL WASHERS AND GRINDERS.

MOST of the washing, mixing, and grinding of rubber is done on two-roll mills, upon the same principle as when the rubber industry was in its infancy, although in the United States, to be sure, a greater product has been secured by increasing the size of the rolls and speeding the mills up. It is a curious fact that while the three roll washer is an American invention, the three roll grinder is English. The washer is the invention of Mr. Maurice C. Clark, superintendent of the Joseph Banigan Rubber Co. (Providence, Rhode Island), and is built by both the Farrel Foundry and Machine Co., and the Birmingham Iron Foundry. The comparison of the amount of work done by the three roll washer as against the two roll, is exceedingly interesting. One three roll washer will crack up and wash in a day about 5000 pounds of Pará fine rubber, 4000 pounds of Pará coarse, Caucho, or Assam, and 3500 of low grade Africans, such as thimbles, Benguelas, etc., or would equal the work of five or six ordinary two roll washers, the three roll machine using not over 50 horse power, while the line of two roll washers would use about 150 horse power.

The English three roll double acting mixing and grinding mills were invented and patented by Joseph T. Wicks, the well known India-rubber expert. This type of mill is fitted with one slow and two friction rolls, the manner in which they operate being well shown in the illustration. All three of the rolls are piped for water and steam, and the mill is opened or closed by moving the slow roll backward or forward.

In mixing, the rubber is first placed on the slow roll. The compounds are then used in the usual

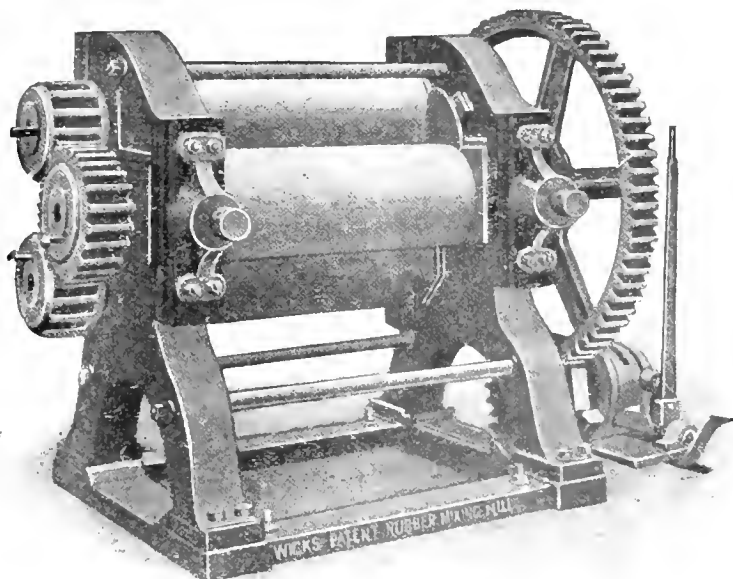
manner, and the batch cut and handled just as it would be in ordinary mixing, the difference being that, with two friction rolls, practically twice as much mixing is done in a given time. According to the inventor's figures, a 112 pound batch, which it would take 30 to 40 minutes to fix on an ordinary two roll mill, will be thoroughly mixed in 15 to 20 minutes on a three roll. It has also been found that the rolls can be kept cool

more easily on this type of mill than on the two roll. As there are many kinds of stock that should be mixed as quickly as possible, it would seem that this mill might be found very useful. This same three roll system is applied to warming mills, refining mills, and for waste rubber grinders.

It is of interest to know that the inventor and patentee has long been in the rubber business, and is an acknowledged expert. He was at one time connected with William Warne & Co., Tottenham, England; was later manager of the great factories of Charles Macintosh & Co., Manchester; was with Maurel et fils, Boulogne sur Seine, France; and was mill and laboratory manager to the Dunlop Pneumatic Tyre Co., Aston, Birmingham. Mr. Wicks's rubber machinery is built by the old house of James Bertram & Son, Limited, Edinburgh, Scotland.

VULCANIZING RUBBER SHOES UNDER PRESSURE.

FOR some time past ex-Governor A. O. Bourn, of the Bourn Rubber Co. (Providence, Rhode Island), one of the pioneer manufacturers of rubber shoes in the United States, has been conducting a series of experiments with a view to shortening the time of vulcanization where the dry heat is used, and at the same time bettering the product. Instead of the ordinary dry heater he uses a jacketed vulcanizer into which the shoes are run on specially constructed cars. One of the early results of his experiments was the discovery that the time of vulcanization was much shortened when the air in the vulcanizer was compressed. This, however, meant an air compressor and more or less expense. He secured his interior pressure, therefore, by employing a dry vaporizing material which, under heat, liberates a gas that exerts powerful pressure upon the rubber surfaces and at the same time neutralizes the sulphurous and other vapors that have always been more or less a source of trouble



WICKS'S PATENTED THREE ROLL MIXER.

to those who use the ordinary dry heater. Governor Bourn's best results have come from the use of carbonate of ammonium, and he has also used both the bromine and iodide of ammonium. The net result of his experiments proves that the value of the stock is increased about 10 per cent., while the time of curing is cut down about two-thirds. Governor Bourn has patented his process and it is understood that he is soon to use it on quite a large scale.

MINIATURE VACUUM DRYING CHAMBERS FOR THE LABORATORY.

ALMOST all of the leading rubber factories to day have rub-

ber plants in miniature in the laboratory for experimental work. Such companies will be glad to know that it is now possible to secure a small vacuum drying chamber for the drying of rubber, gums, and the various ingredients used in compounding. These dryers are cylindrical, have a door at one end, with three hollow shelves inside through which heated water, oil, or exhaust steam may be circulated as a heating medium. Although the first miniature sample was made only a few days ago, word comes that ten of them have already been placed in rubber mills. [Alex. P. Mende, No. 125 East Sixty-second street, New York.]

CRUDE RUBBER AND PLANTING INTERESTS.

"CASTILLOA ELASTICA" RUBBER DRIED IN THE SUN.

SEÑOR JOAQUIN JIMENEZ, an extensive sugar and coffee planter of Tuxtepec (Oaxaca), Mexico, is interested also in the cultivation of India-rubber, having planted up to date some 10,000 trees, though, perhaps, this number is not now standing. Recently he permitted some of his six and eight year old trees to be tapped by men sent to his place by a Vera Cruz trader, who extracted and cured about 700 pounds of rubber for which they paid 80 cents, Mexican. The trees tapped yielded an average of about one pound per tree. There are on the plantation half a dozen trees, planted fifteen or sixteen years ago, one of which is supposed to have yielded 11 pounds of rubber this season. The rubber here referred to was prepared without the addition of any coagulating agent, the latex having been poured over a coffee *patio* (drying floor) and dried in the sun.

RUBBER IN THE MALAY STATES.

THE annual report for 1901 of the United Planters' Association of the Federated Malay States again speaks hopefully of the rubber plantations in that region, though without giving any details of later date than have appeared already in THE INDIA RUBBER WORLD. In regard to *Ficus elastica* the report says: "The unsuitability of this tree for planting among coffee to some extent accounts, no doubt, for the preference shown to Pará. Nevertheless, when put out on soil which it likes, growth has been very fine, but it has shown itself to be a tree which will not flourish anywhere and everywhere, and for it to make a vigorous start it appears essential that there should be a fairly rich surface humus or lots of ash after a recent burn. On rain washed and impoverished hillsides it sulks from the day it is planted, but grows splendidly on practically bottomless peat if well drained."

RUBBER AT THE TRINIDAD BOTANIC GARDENS.

IN the annual report for 1901-02 Superintendent John H. Hart writes that the *Castilloa elastica* planted in 1898 is now over 25 feet in height and some of the trees have stems 5 inches in diameter. It has been found that rubber fluids or latex from these young trees produce rubber, but inferior in quality to older trees. Mr. Hart is still of the opinion that trees of this species less than eight or ten years old cannot be depended upon to furnish rubber of good quality. Although chemically rubber is contained in younger plants, yet it is not in such a condition that it can be made of market value. The Pará rubber trees (*Hevea brasiliensis*) put out in 1898, at the same time as the *Castilloa* trees, fully equal to the latter in height, but have not so large a stem in circumference. They are, however, doing well and promise to thrive in the climate of Trinidad. The Lagos rubber trees (*Funtumia elastica*) made

a splendid growth during the year, some of the trees being now over 20 feet high, with a stem diameter of 4 inches. From present appearances this tree seems to be able to stand more hardship than any other variety under experiment. A section has been planted with Balata (*Mimusopa globosa*), in the first place to make sure of seed supplies of a valuable timber and, secondly, to afford opportunity for illustrating by experiment the age of the tree best suited for producing the Balata of commerce.

RUBBER EXPLOITING IN PERU.

A REPORT by the United States secretary of legation at Lima, Peru, in regard to the formation of two rubber exploiting companies was referred to in THE INDIA RUBBER WORLD of June 1 [page 280.] It has been learned that the company with £26,000 capital, to operate in the province of Sandia, department of Puno, Peru, is the Tambopata Gum Co., organized by Señor Pedro D. Gallagher, of Lima. The new company to take possession of 50,000 acres of rubber lands near Marcapata, in the department of Cuzco, and east of the city of that name, was organized by Don Manuel Elguera, also of Lima, and a brother of the mayor of that city. It was Señor Elguera, by the way, who secured the concession in the Beni country, in Bolivia, now being exploited by The Andes Co., of Baltimore, Maryland.

PLANTING MANICÓBA RUBBER IN SERGIPE.

IN a report on the little state of Sergipe (Brazil), the coast line of which lies between the ports of Pernambuco and Bahia, the United States consul, Mr. Henry W. Furniss, mentions that in 1898 the state appointed a commission to report upon the introduction of the Ceará variety of rubber for cultivation, should it prove advisable. The commission visited Ceará, where the maniçoba rubber trees were originally found wild and are now under extensive cultivation, and as a result of their investigation maniçoba has been planted in various parts of Sergipe. The consul has seen two plantations, one with about 17,000 trees and the other with more than 20,000, both three years of age and apparently in a flourishing condition. Maniçoba is grown from seed, planted at the commencement of the rainy season, 12 to 15 feet apart, usually three seeds to a hill, the most vigorous resulting plant being left to stand. Some planters file one end of the hard seed—which much resembles the seed of the castor bean—to assist germination; others soak the seeds before planting, but generally the seed is planted without previous preparation. It is said that the plant will grow on rundown sugar lands. It is cultivated on the sandy soils of Ceará, but it doubtless will succeed best on good farming land. The tree requires little attention, in many places the soil receiving no cultivation, and reaches a height of from

12 to 36 feet in four to six years. It yields rubber at a very early age, the average stated at about $2\frac{1}{2}$ years from planting, when from 7 to 35 ounces of rubber may be obtained in a season. Rubber is obtained by removing from the trunk a V-shaped piece of bark, to the lower angle of which a small vessel is placed to collect the *latex*. Coagulation is assisted by smoking, as in the case of Pará rubber, though the *latex* will coagulate spontaneously in the air. The cost of planting and gathering the initial crop is stated to be less than in the case of coffee, sugar, or cotton, while the profit is greater, and the consul believes that the new industry will become important.

NEW YORK TRADING AND DEVELOPMENT CO.

INCORPORATED under New Jersey laws, with \$100,000 capital. Conrad C. Hewitt is president, and James Westervelt, a lawyer at No. 51 Wall street, New York, secretary. The company report the possession of 5000 acres of land in Vera Cruz, Mexico, of which one tract of 1000 acres is to be taken by the New York Teachers' Plantation Co., mentioned recently in this paper, and another is to be taken by the Empire State Plantation Co., said to be composed of about forty New York business men. The company offer other tracts to companies formed for planting rubber, coffee, and cacao, agreeing to accept stock of such companies in payment for the land, and offering to contract to develop the plantation. The company have issued a pamphlet entitled "Rubber, Coffee, and Dividends."

THE WILLIAM V. BACKUS CO.

INCORPORATED June 25, under New Jersey laws; capital, \$250,000, all paid in. Objects, planting rubber, vanilla, tobacco, bananas, and other tropical products; the charter also gives them the right to deal in plantation lands and promote plantation companies. Officers: William Vernon Backus, president; William Backus, Sr., vice president; A. B. Nichols, secretary; M. K. Mullin, treasurer. The office in New Jersey is that of The Corporation Trust Co., No. 15 Exchange place, Jersey City. The principal office is in the Society for Savings building, Cleveland, Ohio, which is also the headquarters for two other Mexican development companies, planned, among other things, to cultivate rubber, and of both of which Mr. Backus is also president—The Mexican Investment and Manufacturing Co. and The Imperial Plantation Co. These, by the way, have been mentioned already in THE INDIA RUBBER WORLD.

TEHAUNTEPEC RUBBER CULTURE CO.

[Plantation "Rubio," Coatzacoalcas, canton of Manatitlan, state of Vera Cruz, Mexico. Offices: No. 35 Nassau street, New York.]

THE first annual report of this company, relating to its operations to June 1, 1902, the end of its first fiscal year, states that practically all the company's 2500 gold mortgage bonds have been subscribed for, with the realization of sufficient funds to carry on all the development work that has been planned. Most of the subscribers have elected to carry the life insurance connected with the investment, and the death is reported of three of the subscribers during the year, together with the details of the settlement of their life insurance claims. The plantation manager reports nursery stock in readiness and plans completed for bringing up the area planted in rubber trees to 1500 acres this season, closing with the end of August. Employment is given to 400 native laborers, and the report says: "Coupled with our intention to make this plantation the largest and greatest of its kind in the world, we are determined to make the town Rubio a model plantation headquarters," and details are given of the construction of accommodations for the company's employes as well as the construction of roads, bridges, and the like, the progress of which has been most sat-

isfactory, considering the short time since a beginning was made on a virgin forest tract. The report concludes with a letter written by an investor in the company's securities, Mr. Francis A. Crum, of Hartford, Connecticut, after a visit to the plantation, and for the information of his immediate friends, giving some additional details regarding the progress made on this plantation.

LA ZACUALPA RUBBER PLANTATION CO.

[Plantation near Tapachula, state of Chiapas, Mexico. Offices: San Francisco, California.]

THE representation of this company for the Eastern states has been taken by Smith, Kemble & Co., No. 106 Wall street, New York, who have issued a new edition of the several pamphlets descriptive of La Zacualpa plantation and of the methods and prospects for rubber cultivation, including one titled "Rubber; What it is and How it Grows."

ORIZABA RUBBER PLANTATION CO.

[Plantation at El Salto, state of Chiapas, Mexico. Office: No. 215 Dearborn street, Chicago, Illinois.]

INCORPORATED April 11, under the laws of Illinois; capital, \$100,000. The company own 12,354 acres in the department of Palenque, Chiapas, on the Tuliya river, navigable by steamers from the gulf of Mexico, at Frontera, about 120 miles distant. It is intended to develop first one half of this tract, for which purpose 6177 plantation certificates are offered for sale, each to represent one acre of ground, which the company agrees to clear, plant, and bring to full cultivation. The principal interest of the company will be rubber planting, though it is intended to plant "side crops" while the rubber is reaching a productive age. In offering these certificates for sale on the installment plan, the company's prospectus refers to the advantage of this form of investment over stock in a building and loan association. The officers are James B. Sanborn, president; Charles C. Emmons, vice president; S. M. Sutherland, treasurer; and E. L. Hagenbuck, secretary—all of whom are connected with important business enterprises in Chicago and neighboring cities.

METHODS OF RUBBER PLANTING.

THE managing director of a rubber plantation company operating in Mexico writes to THE INDIA RUBBER WORLD: "We are planting in the partial shade; a great many planters are planting in open sunlight. My honest opinion is that every one who has planted in open sunlight will get a tree 50 per cent. larger in five or six years than we in the partial shade. On the other hand we will get from 60 to 75 per cent. more rubber from a small tree than they do from a large tree. About three months careful study was made of this proposition; the trees were tapped both in the shade, partial shade, and open sunlight, and the results carefully tabulated by a committee of which I was not a member."

RUBBER PLANTING PUBLICATIONS.

THE Obispo Rubber Plantation Co., New York—(1) Book No. 1 of photographic views. 12 pp. (2) Announcement of offering of \$12,000 of share contracts. 16 pp. (3) Report of C. S. Donaldson, first annual inspector. (4) Consular and Other Reports on Rubber. 25 pp.

The Isthmus Rubber Co., of Uvero, No. 29 Broadway, New York—[Plans, objects and purposes.] 20 pp.

Boston Tropical Co. (Boston, Massachusetts)—Mortgage or Deed of Trust to Manufacturers' Trust Co. 35 pp.

The Hartford Sugar and Rubber Co. of Mexico (Hartford, Connecticut)—Sugar and Rubber. 24 pp.

Isthmus Plantation Association of Mexico, Milwaukee, Wisconsin—(1) Inspector's Report, 1902. 30 pp. (2) Information Bulletin No. 14. 6 pp.

RUBBER INDUSTRY IN THE CENSUS.

CENSUS Bulletins Nos. 158, 159, and 163, issued from Washington, are devoted respectively to manufactures in Massachusetts, New York, and Pennsylvania, for the period covered by the census—the year ending June 30, 1900. From these bulletins has been compiled the following details regarding the rubber industry in the three states named, to correspond with similar information for certain other states reported in THE INDIA RUBBER WORLD of December 1, 1901, and May 1, 1902.

MASSACHUSETTS.				
	Rubber Boots and Shoes.	Rubber Hose and Belting.	Rubber and Elastic Goods.	TOTAL.
Number of establishments....	6	4	70	80
Total capital.....	\$13,157,321	\$1,566,475	\$11,818,650	\$26,542,446
Land.....	\$177,473	\$100,300	\$229,948	\$1,007,771
Buildings.....	\$1,822,003	\$166,500	\$1,139,512	\$2,388,015
Machinery.....	\$98,462	\$135,177	\$2,077,538	\$3,341,177
Cash and Sundries.....	\$10,799,383	\$74,498	\$2,041,602	\$19,805,483
Salaried officers and clerks.....	153	60	351	570
Salaries.....	\$220,321	\$70,523	\$512,389	\$803,233
Average number wage earners..	5,250	316	5,944	11,510
Men.....	4,921	256	1,281	6,458
Women.....	2,272	51	2,536	4,859
Children under 16.....	57	9	127	193
Total wages.....	\$2,456,305	\$175,161	\$2,401,954	\$5,033,420
Miscellaneous expenses.....	\$1,081,132	\$23,238	\$652,939	\$1,757,309
Rent of works.....	\$2,050	\$250	\$25,340	\$27,390
Taxes.....	\$127,596	\$6,195	\$105,319	\$239,080
Rent of offices, interest, etc.....	\$53,516	\$14,993	\$110,080	\$1,485,539
Contract work.....			\$5,300	\$5,300
Cost of materials.....	\$8,837,688	\$594,459	\$3,554,422	\$17,986,569
*Principal materials.....	\$8,753,482	\$587,113	\$3,398,337	\$17,738,932
Fuel and rent of power.....	\$85,206	\$7,046	\$156,085	\$248,337
Value of products.....	\$16,490,015	\$930,421	\$13,885,059	\$31,311,495

[* Including mill supplies and freight.]

NEW YORK.		
	THE CITY.	THE STATE.
Number of establishments.....	50	55
Total capital.....	\$3,378,258	\$4,114,297
Land.....	\$134,923	\$176,909
Buildings.....	\$19,341	\$404,077
Machinery.....	\$144,072	\$23,672
Cash and Sundries.....	\$2,338,022	\$2,809,630
Salaried officers and clerks.....	192	214
Salaries.....	\$252,601	\$312,234
Average number of wage earners.....	1,871	2,103
Men.....	844	1,009
Women.....	937	1,052
Children under 16.....	40	42
Total wages.....	\$739,368	\$832,113
Miscellaneous expenses.....	\$270,751	\$317,510
Rent of works.....	\$52,427	\$53,307
Taxes.....	\$10,120	\$12,818
Rent of offices, interest, etc.....	\$174,475	\$217,605
Contract work.....	\$33,720	\$33,720
Cost of materials.....	\$2,506,126	\$2,997,636
*Principal materials.....	\$2,558,562	\$2,039,563
Fuel and rent of power.....	\$47,564	\$58,073
Value of products.....	\$1,663,440	\$5,303,824

[* Including mill supplies and freight.]

PENNSYLVANIA.		
Number of establishments.....		11
Total capital.....		\$924,106
Land.....		\$42,700
Buildings.....		\$92,919
Machinery.....		\$472,721
Cash and sundries.....		\$515,766
Salaried officers and clerks.....		30
Salaries.....		\$43,836
Average number of wage earners.....		599
Men.....		432
Women.....		124
Children under 16.....		43
Total wages.....		\$275,699
Miscellaneous expenses.....		\$31,500
Rent of works.....		\$1,863
Taxes.....		\$1,456
Rent of offices, interest, etc.....		\$28,151
Contract work.....		\$120
Cost of materials.....		\$740,976
*Principal materials.....		\$732,107
Fuel and rent of power.....		\$8,869
Value of products.....		\$1,170,889

[* Including mill supplies and freight.]

In the case of Massachusetts the rubber establishments are classed under three headings, as will appear in the accompanying table. In New York the whole industry is considered under the classification "Rubber and elastic goods." It may be mentioned that one rubber belt and hose factory is not included in

the New York figures. Some readers may not be prepared to learn that 50 rubber establishments are credited to New York city and 55 to the state as a whole.

In spite of the great progress made in the rubber industry in other states, Massachusetts has retained first rank in the rubber industry, which would seem proper, since the industry had its beginning in that state. During ten years past, the growth of production in Massachusetts has been very marked, the increase in the value of rubber and elastic goods since 1890 being 63 per cent. and in rubber boots and shoes 68 per cent.

From the bulletin for Massachusetts it appears that in 1890 there were in that state 50 establishments devoted to rubber and elastic goods, producing goods valued at \$8,518,612; 5 rubber boot and shoe factories, making goods of the value of \$9,792,024; with no separate enumeration for "rubber belting and hose." The total for 1890, therefore, was 55 establishments, with an output of \$18,310,636 worth of goods. Reference to the table for 1900 will show what an enormous growth has been made.

The Pennsylvania figures relate to "Rubber and elastic goods," and do not embrace two rubber boot and shoe factories and one rubber belting and hose factory.

In the figures which follow are summed up the total production of rubber goods in the leading states in 1900, so far as the census bulletins have given any information:

RHODE ISLAND.		
Rubber Boots and Shoes.....	\$8,034,417	
Rubber and Elastic Goods.....	2,518,268	\$10,552,685
CONNECTICUT.		
Rubber Boots and Shoes.....	\$11,999,038	
Rubber and Elastic Goods.....	8,246,240	20,245,278
OHIO.		
Rubber and Elastic Goods.....		7,330,104
NEW JERSEY.		
Rubber Belting and Hose.....	2,800,145	
Rubber and Elastic Goods.....	8,458,274	11,258,419
MASSACHUSETTS.		
Rubber Boots and Shoes.....	16,490,015	
Rubber Belting and Hose.....	936,421	
Rubber and Elastic Goods.....	13,885,059	31,311,495
NEW YORK.		
Rubber and Elastic Goods.....		5,303,824
PENNSYLVANIA.		
Rubber and Elastic Goods.....		1,170,889
Additional Rubber Boots and Shoes in various states, according to Census Bulletin No. 171.....		4,566,349
Total.....		\$91,739,023

There remain to be considered the returns of the rubber industry in New Hampshire, Indiana, Illinois, Wisconsin, Delaware, and California, involving a production of sufficient value without doubt to bring the total for the United States during the census year to upwards of \$100,000,000.

THE AMBITION OF MR. CONVERSE.—In an address before the Middle States Jobbers' Association, in New York, some time ago, Colonel Samuel P. Colt, president of the United States Rubber Co., said that the ambition of Mr. E. S. Converse, in the early days of the Boston Rubber Shoe Co., was to live to see the time when the daily production of his factory might reach 1000 pairs a day. The production has grown to 55,000 pairs a day, and with an aggregate invested capital of \$350,000, the company has divided among the shareholders, under Mr. Converse's management, \$29,000,000.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE STOUGHTON GOLF BALL.

THE new Stoughton ball seems to be in many respects radically different from the ordinary ball, and is winning many friends among both professionals and expert amateurs. The manufacturers claim for it that it is made of pure Gutta-percha throughout, the gum being very

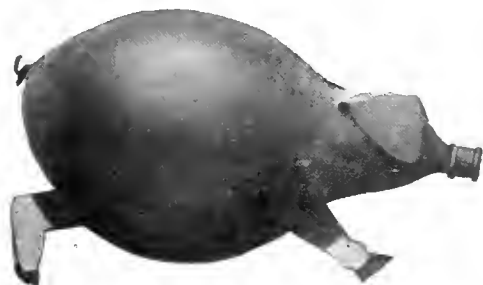


carefully refined by a new and elaborate process that removes all traces of resin. The ball on being cut open shows a dense gum, varying in color from a light tan to a slaty white. Thirty days of seasoning ages it sufficiently for any player, and

after that length of time it does not seem to harden at all. The makers claim for it that it flies as far and as truly as any ball on the market. It also putts with great sureness, keeps its shape, does not hack, and the paint adheres to it excellently. The only trouble that the manufacturers have at present, is that they are not able to fill their orders as rapidly as they come in. [The Stoughton Rubber Co., Stoughton, Massachusetts.]

A POPULAR TOY.

THE whistling pig shown in the accompanying illustration is a grotesquely

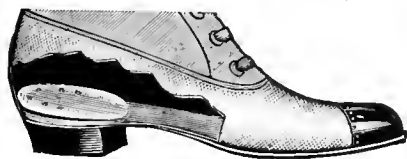


lunny toy and one that is having a very large sale. It is made of pure rubber, similar to toy balloon stock, and when inflated is as rotund as a prize porker.

As the air escapes in a prolonged whistle the creature shrinks and expires with a pathetic wail. [Baumann Rubber Co., New Haven, Connecticut.]

THE "COMFORT" HEEL CUSHION.

THIS is a springy cushion of "sponge rubber," protected by a flexible aluminum shield, cloth, and kid skin. It is worn inside the shoe, leather side up. Before placing it in position, the piece of leather or felt usually found in the heel is removed.



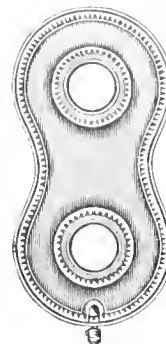
It is then only necessary to moisten the glue on the bottom of the cushion, and press firmly on the cushion to make it adhere to the sole. The

cushion is easily removed when the shoes are repaired or worn out, and can be used again. These cushions are offered as giving the same service in preventing jar in walking as rubber heels, with greater convenience in application. They retail at

30 cents. They are covered by a patent issued May 6, 1902, to Frank P. Macintyre. [The "Comfort" Heel Cushion Co., No. 153 North Third street, Philadelphia.]

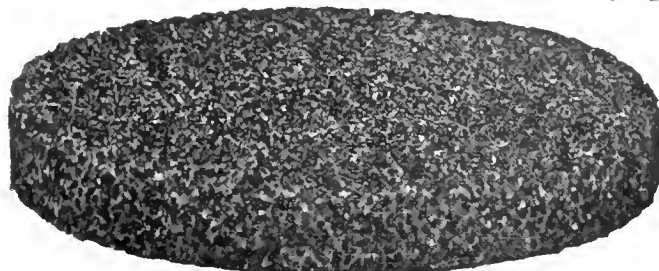
A NEW BED SORE CUSHION.

AN article which is often of very great utility in the sick room, whether at home or in a hospital, has been brought out in a new form, which is shown in the accompanying illustration. It is similar in general design to an invalid ring, except that it is oblong, having two holes, and thus affording a surface on which the patient can rest, while the openings protect the sore from coming in contact with the bed. The medium size is 17 inches long and 10 inches wide. A patent has been applied for. [Tyer Rubber Co., Andover, Massachusetts.]



RUBBER CARRIAGE SPONGES.

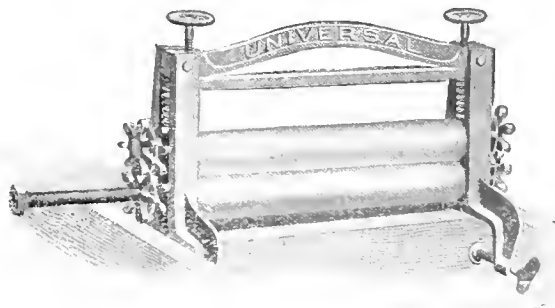
THE ordinary sponge is very largely used for washing fine carriages, but is open to many objections. Chief among these is the unavoidable presence of sand taken in while it is growing, and the fine grit which the flabby texture of the sponge allows to penetrate its walls while in use, thus proving a secondary cause of scratching. Beyond this, there is the short life of the sponge



under such severe work as the washing of rigid surfaces. It is, therefore, interesting to note that an ideal carriage sponge is now made of rubber. It is fully as soft as the softest natural product, the cell walls are more resilient and do not catch sand or grit, while one of these sponges will also outlast many of the natural ones. [Alfred H. Smith, No. 84 Chambers street, New York.]

"UNIVERSAL" BLUE PRINT WRINGER.

THIS is a wringer made on a new design, and intended especially for use in the manufacture of blue prints and in leather

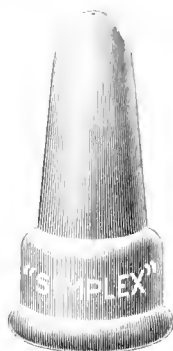


book, and paper work. It is fitted for use also in hosiery mills and dye houses, and for medallion picture mounting. It has steel spiral pressure springs, and the rolls can be reversed in order to allow a crank to be placed at either end of the ma-

chine. This wringer is made in six sizes, with rolls from 12x2 $\frac{1}{4}$ inches to 30x3 inches, with special sizes to order. [The American Wringer Co., No. 99 Chambers street, New York.]

THE "SIMPLEX" HYGIENIC NIPPLE.

A DISTINCTIVE feature of this new article, on which a patent has been applied for in the United States, is its construction in such a manner that every part of the interior is plainly visible and readily cleaned, there being no ribs, corrugations, bulb, or sharp angles to catch and hold the milk. The "Simplex" hygienic nipple can be easily turned inside out, if desired—a consideration of great importance in connection with the health of infants. It is put up for the trade in a new style handsome paper box, containing one dozen; black, per gross, \$5.25. [Whitall Tatum Co., Nos. 46 48 Barclay street, New York.]



"THE LITTLE MINISTER."

CREATING a popular toy is much like originating a proverb



—apparently easy, but in truth often difficult. The "Little Minister" has hit the popular fancy and may be seen almost everywhere. Just what it is in the solemn manikin that appeals to the children it is difficult to say. It can hardly be the dainty boots, the creased trousers, nor the tasteful tie. Indeed, as clothes do not make the man, neither does dress make the minister. It must lie, therefore, in some virtue patent to the clear eye of the child, but hidden from the misty vision of the elders, for certain it is that the little ones are all wild over the "Little Minister," as he is done in rubber by The B. F. Goodrich Co. (Akron, Ohio.)

THE SILK RUBBER SUN BONNET.

THE silk rubber sun bonnet is the newest, most favored bathing cap creation, says a fashion writer,

in this summer's bathing outfits at the seaside. It covers the hair, and protects the eyes at the same time. It is made of silk lined with rubber and has a wide visor in the front. At the back, after the hair is carefully tucked up in the cap, the fullness of the material is drawn close to the head by a draw string. The sun bonnet is tied under the chin with ribbons or tapes. These new sun bonnet bathing caps can be bought in a variety of silks, rubber lined. Some silk bathing caps are in Oriental colors and designs; others are made of checked or plaid silk, and then again the cap is made to order to match the suit with which it is to be worn. The old-time rubber caps

are shown in a number of new shapes, and this year some are exactly like a big Tam o' Shanter and have a silk pompon at the top. There are other silk caps which have exactly the effect of a handkerchief tied about the head. Then they can be bought with a rubber brim, stiffened a trifle at the edge and also with a soft fluted brim cut in scallops. Still another style of head covering is a combination rubber cap and handkerchief. The cap successfully protects the hair, and the handkerchief then covers it, the ends tying in a fetching knot in front. This little cap and handkerchief in one is a great convenience to the girl who goes in for sea bathing.

THE EDITOR'S BOOK TABLE.

FOREIGN TRADE REQUIREMENTS. PUBLISHED ANNUALLY WITH Quarterly Supplements. 1902. Containing Complete Information Concerning the Commercial Countries of the World, as to: Trade Conditions, Traveling Salesmen, Agencies and Advertising, Credit Customs; Commercial, Trade Mark, and Patent Laws; Transportation Facilities, Principal Cities, Postal Regulations, Coins and Currencies, Weights and Measures, and Cable Rates. New York: Lewis, Scribner & Co. [Cloth. 4to. Pp. 532. Price, \$15.]

THE intending exporter of goods in any line is concerned to know where he can sell his wares, how to reach the market, what restrictions are imposed on the admission of goods abroad, what protection he will be afforded under the laws of foreign countries, and what class of people may be expected to buy what he has to offer. To cover all these various points is by no means a simple matter, particularly in the case of one who undertakes for the first time to engage in foreign trade. In this case the attempt has been made to bring together in a single reference volume the information most essential to the successful conduct and extension of foreign trade. The information contained apparently has been compiled with great care to assure its accuracy and bring it up to date. It has been classified and arranged under a number of headings which are suggested in the full title of the book, as given above.

In the first place, 147 large pages are devoted to a general description of the various countries, in alphabetical order, giving a brief account of the political conditions and the character of the employments and the manner of life of the people and the classes and grades of goods which they consume, and particularly foreign goods. As illustrating the miscellaneous information given, we quote from the pages on Japan:

Rubber specialties, mechanical rubber goods, and rubber cloth in sheets are now manufactured in Tokio, a factory having been established during the past year. This list, however, is active in the markets and will continue a good one for the American manufacturers of such articles. Rubber covered wire has been made for several years but is suitable for currents of low potential only. Considerable effort is being made by the Japanese to improve this product.

Elsewhere it is mentioned that electric motors are largely used to drive machinery in factories, the use of electric lighting is spreading, and the preference is given to American electrical apparatus. And so on, throughout the pages of this section.

The laws of the various countries applying to traveling salesmen, agencies and the like; usages in general practice as to credits and discounts; the laws relating to contracts, bankruptcy, collections, etc.; the patent and trade mark laws, and various other matters important to be understood by exporters are outlined here, in each case by an expert. A section is devoted to transportation facilities. Taking one country after another, the shipping lines by which it is reached from the United States are mentioned, with the names and addresses of agents, together with the means of internal transportation.

There are tables of coins and currencies, postal regulations, and ten pages of foreign weights and measures, with the United States equivalents. It is shown, for example, that the picul of China, Japan, Borneo, Java, Siam, and the Philippines

all differ. The arroba differs in 23 countries, and there are 21 different quintals, varying from 100 pounds, in British Honduras, to 220.46 pounds, where the metric system prevails. The book concludes with a gazetteer of the commercial cities of the world having a population of 10,000 or over, giving location, population, banks, chambers of commerce, and principal industries.

In view of the fact that some classes of the information contained in this book are liable to frequent change, the publishers announce that four supplements, covering such changes, will be supplied during the year to each purchaser of the annual volume.

THE STATUTORY AND CASE LAW APPLICABLE TO PRIVATE COMPANIES under the General Corporation Act of New Jersey, and Corporation Precedents. By James B. Dill, Counselor at Law. Third edition. New York: Baker, Voorhis & Co. 1901. [Cloth. 8 vo. Pp. 381. Price, \$5.]

SINCE it has been the announced and settled policy of the state of New Jersey to attract incorporated capital to that state, by the enactment of liberal laws for the protection of capital thus invested, the large corporations formed under the laws of that state have become more numerous than in any other part of the Union. The result of such legislation is apparent from the fact that several other states have adopted many of the essential and underlying principles, some even adopting the language, of the New Jersey laws. In this volume has been compiled the legislation of New Jersey in relation to corporations, including the latest amendments, with ample explanatory notes and abstracts of legal decisions in which the various enactments have been construed by the courts. There are given also many forms and precedents, such as are likely to be of use to counsel in the organization of corporations under the laws of other states as well as in formation and subsequent management of New Jersey companies. The recognized position of the author of this book as perhaps the most eminent corporation counsel in the United States fits him particularly for the preparation of such a work.

L'AGRICULTURE SUR LA COTE EST DE MADAGASCAR. PAR E. Prudhomme, directeur de l'Agriculture à Madagascar. Paris: Comité de Madagascar, 1901. [Paper. 8 vo. Pp. 120+8 maps and 87 plates.]

THIS brochure in the series of "Publications du Comité de Madagascar" relates to explorations made in eastern Madagascar by the author, and his observations regarding Caoutchouc, cacao, vanilla and coffee. To the first named he devotes 30 pages and several plates, reporting the discovery of new rubber species of commercial value.

WE have received from the International Cable Directory Co. (No. 17 State street, New York) a copy of the International Cable Directory of the World, issued in conjunction with the Western Union telegraphic code system. This book to users of the wires, both for domestic or cabling purposes, is to the business public what the telephone book is to users of the telephone, as it furnishes the cable addresses of prominent corporations, firms, and individuals in all parts of the globe, and is therefore invaluable for reference. The fact that the State department has purchased copies to supply all the embassies, legations, and consulates of the United States, must add materially to the value of the book to users of the Code. The book was adopted by the State department mainly for the promotion of commercial relations with the United States by residents of other countries. The great success of the work has induced the publishers to print the business headings in German, French, and Spanish, in addition to English. The Directory contains perhaps the best classified list of American manufacturers extant.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED JUNE 3, 1902.

- NO. 701,279. Vehicle wheel and tire. Louis F. Altpeter and Robert C. Altpeter, Chicago, Illinois.
 701,342. Process for making rubber tires. Albert T. Holt, Springfield, Ohio.
 701,434. Vehicle tire. George A. Wiedely, Indianapolis, Indiana, assignor to the G & J Tire Co., Indianapolis, Ind.
 701,472. Apparatus for covering flexible conduits with rubber in cement or liquid form. John T. Dickey, Hoboken, New Jersey.
 701,558. Tire for vehicle wheels. Charles J. Gilling, Chicago, Illinois.
 701,617. Golf ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
 701,736. Golf balls. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
 701,737. Golf ball. *Same*.
 701,738. Golf ball. *Same*.
 701,739. Golf ball. *Same*.
 701,740. Golf ball. *Same*.
 701,741. Golf ball. *Same*.
 701,765. Golf ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
 701,766. Golf ball. *Same*.
 701,807. Rubber tread horseshoe. Harrison C. Frost, Akron, Ohio, assignor to the Goodyear Tire and Rubber Co.

ISSUED JUNE 10, 1902.

- 702,162. Method of forming sponge substitutes. Alexander Straus, New York city.
 702,187. Box for fountain syringes. Antone C. Eggers, New York city, assignor to the Goodyear's India Rubber Glove Manufacturing Co.
 702,256. Waterproof coat. Gustave A. Strom and Albert Strom, Paris, France.
 702,271. Elastic tire. William F. Williams, London, England.

ISSUED JUNE 17, 1902.

- 702,394. Rubber dam holder. Edmund M. Beall, St. Louis, Missouri.
 702,398. Supporting device. Eva M. Bowyer, Chicago, Illinois.
 702,432. Vehicle tire. William S. Huffman, Boston, Massachusetts.
 702,539. Vehicle tire. Frederick K. Christensen, Sandy, Utah.
 702,678. Composition from rubber-like gum and preparation of same. William Prampolini, San Luis Potosi, Mexico.
 702,738. Flexible hose adapted for couplings, etc. Marshall Montgomery, Philadelphia, Pennsylvania.
 702,759. Water bag. Tony L. Allegetti, Chicago, Illinois.
 702,799. Playing ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
 702,869. Air tube for pneumatic tires. Arthur T. Collier, St. Albans, England, assignor of one-half to Edgar Oliver Goss and Arnold Elworthy Williams, London.

ISSUED JUNE 24, 1902.

- 702,937. Stopper for gas mains. John Franklin, Norwood, Ohio.
 702,942. Ball. Robert K. Gray, London, England.
 703,000. Golf ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
 703,103. Syringe nozzle. Henry E. Weber, Canton, Ohio.
 703,107. Syringe nozzle. Charles S. Wood, Chicago, Illinois.
 703,123. Horseshoe. John Dillon, New York city.
 703,156. Artificial foot. Matthew Smith, Liverpool, England, assignor of one half to Edward Henry Walker, Bootle, Lancaster, England.
 703,196. Insulated wire. John A. Heany, Philadelphia, Pennsylvania, assignor to the Teter-Heany Developing Co., Philadelphia, and a corporation of West Virginia.
 703,197. Manufacture of insulated wire. *Same*.
 703,229. Rubber tip attachment for lead pencils. Claes W. Boman, New York city, assignor to Eagle Pencil Co.
 703,239. Golf ball. Cleland Davis, U. S. Navy.
 703,351. Warming bag. Terence O'Donnell, Kansas City, Missouri.

Trade Marks.

- 33,499. Dress shields. The Canfield Rubber Co., Bridgeport, Connecticut.
 38,500. Dress shields. The Canfield Rubber Co., Bridgeport, Connecticut.

THE ENGLISH PATENT RECORD.

[* *D* notes Applications from the United States.]

APPLICATIONS—1902.

- 9,760. Collapsible bathing tub. Klara Baer, 39, Hillcrest road, Acton, London. April 28.
 9,804. Process and apparatus for molding and welding together articles made of India-rubber. Emile Bert, 22, Southampton buildings, Chancery lane, London. April 28.
 9,805. Methods and apparatus for manufacturing pneumatic tire covers and inner tubes. *Same*. April 28.
 9,855. Tires for vehicle wheels. Jean Libaud, 111, Hatton garden, London. April 29.
 9,915. Hose fittings. Joseph Walker, Augusta Works, Regents parade, Birmingham. April 30.
 9,972. Screw nuts for safety bolts of pneumatic tires. Edouard Etienne Michelin, 24, Southampton buildings, Chancery lane, London. April 30.
 9,997. Detachable rubber heels for boats and shoes. John Miles, Leicester. May 1.
 10,054. Pneumatic leg guard. Herbert Byron Jeffery, 9, Regent street, London. May 1.
 10,106. Rubber pencil tips and erasers. John Alexander George Ross, Newcastle-on Tyne. May 2.
 10,113. Machine for making rubber mats. Cyril Manning, Manchester. May 2.
 10,349. Twin balloon. Alfred Julius Boulton, 111, Hatton garden, London. [La Société Anonyme pour le Commerce et l'Industrie du Caoutchouc, Belgium.] May 5.
 10,397. Pneumatic tires. Edward Louis Curbishley, 18, Southampton buildings, Chancery lane, London. May 6.
 10,398. Wheel tires. Harry Barnard, Hamilton, Ontario. May 6.
 *10,453. Golf balls. Eleazer Kempshall, 19, Holborn viaduct, London. (September 28, 1901, date of application in United States.) May 6.
 10,488. Lionel Lyons, Birmingham. Pneumatic or other tires. May 7.
 10,489. Protective device for tires of cycles, and similar vehicles. Jesse Rigg and Ernest Haigh, Manchester. May 7.
 10,513. Teething pads. Frederick William Ingram, 23, Southampton buildings, Chancery lane, London. May 7.
 10,704. Improvements in golf balls. Eleazer Kempshall, 19, Holborn viaduct, London. (Date of application in United States, March 24, 1902.) May 9.
 10,709. Overcoat or waterproof for cyclists. Robert Henry Marsh and Aquascutum, Limited, 52, Chancery lane, London. May 9.
 10,771. Pneumatic tires. Jonathan Aldouse Mays, 75, Chancery lane, London. May 10.
 10,791. Protecting devices for pneumatic and other elastic tires. Herman Fussen, 70, Chancery lane, London. May 10.
 10,864. Device for preventing skidding and side slipping on pneumatic or other tires. Edwin Midgley, 173, Fleet street, London. May 12.
 10,893. Valves for pneumatic tires. Albert Henry Sayles, 118, Fenchurch street, London. May 12.
 *Improvements in atomizers. Henry H. Harris, Southampton buildings, Chancery lane, London. [Rhodes Lockwood, United States.] May 13.
 11,009. Pneumatic tires. Frederick Westwood 50, Alcester road, Birmingham. May 14.
 11,070. New material or composition for soles and heels of boots and shoes, horse shoe pads, stair treads and mats; also carriage tires and the like. Robert Terras Gavin and John Stuart Campbell, 4, Furnival street, Holborn, London. May 14.
 11,116. Process of making gums from liquid hydrocarbons. William Malcolm Binnie and Orazio Lugo, 99, Balham Park road, London. May 15.
 11,118. Blind teats or baby comforters. Frank Potter Bunton and Percy Tom Bunton, Hull. May 15.
 11,143. Protective coverings of pneumatic tires. Thomas James Bowker, Haileybury College, Hertfordshire. May 15, 1902.
 11,158. Pneumatic tires. John Macintosh, Woolhampton, Berks. May 15.
 11,283. Covers for pneumatic tires. Hilaire Binet, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. May 16.
 *11,319. Playing balls. Eleazer Kempshall, 19, Holborn viaduct, London. (Date of application in the United States, April 15, 1902.) May 16.
 *11,321. Vehicle tires. William Scott Huffman, 18, Buckingham street, Strand, London. May 16.
 11,383. Plain cushion India rubber tire dismountable for carriage wheels. Alfred Ducasble, Asnieres (Seine), France. May 17.
 11,385. Device for removing foreign substances from the surface of rubber tires. George Waters Pitt, 9, Warwick court, Gray's Inn, London. May 17.
 11,436. Golf and other like balls. William Harvey Smith, Bradford. May 20.
 11,469. Pneumatic tires. John Macintosh Macintosh, Wolhampton, Berks. May 20.
 11,477. Pneumatic toy. Robert Lindsey, 43 Southampton buildings, Chancery lane, London. May 20.
 *11,505. Collapsible tubes and other tubular articles. Benjamin Joseph Barnard Mills, 23, Southampton buildings, Chancery lane, London. [Transparent Cellulose Products Co., United States.] May 20.
 *11,507. Playing balls. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. May 20.
 11,520. Flexible tubing and the manufacture thereof. William Mathwin Angus, 70, Chancery lane, London. May 20.
 *11,605. Playing balls. Francis Henry Richards, 19, Holborn viaduct, London. May 21.
 *11,606. Playing balls. *Same*. May 21.
 *11,607. Playing balls. *Same*. May 21.
 11,631. Rubber and eraser tips and blocks, with and without holders, pencils, and the like. May 22.
 11,640. Elastic cushions or buffers for electric light shades. May 22.
 11,659. Appliance for locating punctures in pneumatic tires. Frederick William Johnson, 23, Coleman street, London. May 22.
 *11,752. Golf balls. Eleazer Kempshall, 19, Holborn viaduct, London. (Date of application in United States, March 25, 1902.) May 23.
 *11,753. Golf balls. *Same*. (Date of application in United States, March 12, 1902.) May 23.
 *11,754. Playing balls. *Same*. (Date of application in United States, March 28, 1902.) May 23.
 *11,755. Golf balls. *Same*. (Date of application in United States, April 8, 1902.) May 23.
 *11,801. Golf balls. Robert Hutchison, Glasgow. May 24.
 11,857. Pneumatic and cushion tires, or outer covers. Max Polack, 111, Hatton garden, London. May 24.
 PATENTS GRANTED.—1902.
 [Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]
 504. Pneumatic tires. Harris, H. B., 11, The Grange, Liscard, Cheshire, and Velland, R., 47, Durning road, Liverpool, Lancashire. January 8, 1901.
 650. Air tubes for pneumatic tires. Beattie, J., Belfast, Ireland. January 10, 1901.
 775. Pneumatic tires. Lins, R., 6, Kanonierstrasse, Berlin. January 11, 1901.
 836. Molds for producing tobacco pouches, tire covers, etc. Byrne, F. A., and Boardman, G., Birmingham. January 12, 1901.
 895. Elastic vehicle wheel tires, other than pneumatic. Niedzielski, B. von, and Gnatowski, J. von, Warsaw, Poland. January 14, 1901.
 1,157. Manufacture of rubber hose, tubing, and the like. Heyl Dia, G. E., Manchester. January 17, 1901.
 1,158. Instrument for administering medicaments,—as in the urethra. Levy, A., Hagenuy, Alsace. January 17, 1901.
 2,067. Elastic hosiery. Haywood, J. H., Nottingham. January 30, 1901.
 1,160. Waterproof fabrics. Bonsfield, J. E., 4, South street, Finsbury, London. January 17, 1901.
 1,229. Rubber tire protector. Levy, A. M., Soljanka, Moscow, Russia. January 18, 1901.
 *1,362. Hoof pads. Kent, W. J., No. 99 Garfield place, Brooklyn, New York, United States. January 21, 1901.
 2,155. Solid or hollow rubber tires. Williams, W. F., 17, Great Pulteney street, Golden square, London. January 31, 1901.
 2,196. Exercising apparatus. Ryan, M. B., Erfrasse, 12, Cologne, Germany. January 31, 1901.

THE UNITED STATES PACIFIC CABLE.

THE announcement was made on July 19 that the Commercial Pacific Cable Co. had signed a contract with the Telegraph Construction and Maintenance Co., Limited (London), for the manufacture and laying of its cable from Honolulu to Manila, touching midway at Guam. The Construction company guarantees to complete the cable by June, 1903, if furnished with the necessary soundings. In the event that these cannot be furnished, the company agrees to finish the cable laying within such time thereafter as may be necessary to take the soundings.

It is stated that the Commercial Pacific Cable Co. have laid before the government at Washington a proposal that if the soundings in the Pacific ocean taken by the United States boat *Nero* are thrown open to that company for use in laying their cable, the company will agree to have the entire cable from San Francisco to Manila laid and in operation by June 1, 1903, or 1½ years sooner than the company had at any time before indicated that they could put the cable into operation. The government is considered likely to throw open the soundings to the public, including the cable company named, just as it has always thrown open to the public all government soundings taken along the coast of the United States or elsewhere.

The placing of this contract would indicate that the Commercial Cable interests are not bound up with any particular cable manufacturer. The three transatlantic cables of the Commercial Cable Co. were laid by Siemens Brothers & Co., Limited, and the first section of the Pacific cable has been made by the Silvertown company. The Telegraph Construction and Maintenance Co. were identified with the first successful Atlantic cable, having been formed, in fact, in April, 1864, at the suggestion of the late Sir John Pender, by the amalgamation of the leading cable makers of that time, to construct a transatlantic cable, since which time they have occupied a position among the greatest cable laying companies. The company have a capital of £448,200 (=\$2,241,000) on which amount dividends of 20 per cent. were paid last year, in addition to 4 per cent. on £150,000 of debentures.

In connection with the recent debate in Congress on the question of extending government support in the construction of a Pacific cable, a cablegram addressed to the chairman of a congressional committee was read on June 11, of which the following is a copy:

HEPBURN, Chairman, Washington:

My company begs to inform you that it has already manufactured 1065 nautical miles of submarine cable which we are to lay between San Francisco and Honolulu for the Commercial Pacific Cable Co., and the balance is being made at the rate of 25 miles per day, and our steamer *Silvertown* will sail with said cable on or about the 1st August next.

ROBERT K. GRAY,
Managing Director of the India-Rubber,
Gutta-Percha and Telegraph Works Co.

DEATH OF JOHN W. MACKAY.

JOHN WILLIAM MACKAY, of San Francisco and New York, and president of the Commercial Cable Co. and of the Com-

mercial Pacific Cable Co., died in London on July 20. His last illness was of short duration, as earlier in the week he had been engaged with Vice President Ward, of the same companies, in concluding a contract for the completion of the Pacific cable, the announcement of which appeared the day before Mr. Mackay's death. Mr. Mackay was born in Dublin, Ireland, November 28, 1831, and was brought by his family to New York nine years later. He was a very young man when he found his way to California, where his attention was attracted to mining interests, and he became one of four partners to gain great wealth through the discovery of the "Bonanza" silver mine. Mr. Mackay, by the way, was the last survivor of the group. He became interested in the subject of ocean telegraphy at a time when all the Atlantic cables were controlled by a monopoly, and in conjunction with Mr. Bennett, of the New York *Herald*, established the Commercial Cable Co., which company now operates three transatlantic lines besides having a working arrangement with the German-Atlantic cable. The Postal Telegraph Co., with 185,000 miles of land wires in the United States, is an allied enterprise. Mr. Mackay was the principal stockholder in the various companies named, and it is

presumed that his place in these companies will be taken ultimately by his son, Clarence H. Mackay, already a vice president of the Commercial Co. The latter is credited, in a recent newspaper article, with having been the first to suggest the Pacific cable enterprise now under way. The construction of the Pacific cable will be in charge of George Gray Ward, long identified with the Mackay interests, and regarded as the leading expert on ocean cable laying now living.

BRITISH PACIFIC CABLE.

THE Telegraph Construction and Maintenance Co.'s cable steamer, *Colonia*, sailed from London on July 10 for Vancouver, to lay the longest section of the British Pacific cable, from British Columbia to Fanning island, and another steamer was to sail in a few days to lay the section from Fanning island to the Fiji islands. With these two sections the cable will be completed. The date named in the contract for completing the laying of the cable is November 1, 1902.

ANOTHER GERMAN ATLANTIC CABLE.

THE Deutsch-Atlantische Telegraphen-Gesellschaft have contracted for a new cable across the Atlantic, to duplicate the line laid in 1900 from Borkum, Germany, to New York. The total length of this line is 4142 miles, in two sections, uniting at Horta, in the Azores. The company's recent experiments in cabling direct from Borkum to New York have been quite successful, affording practically one cable. The year 1901 was the record year in the transatlantic cable business, and the annual report of the German cable company for the first year makes a most satisfactory showing. The cable will cost 21,000,000 marks (=\$4,998,000) and will be manufactured in Germany. Mr. Franz Clouth, the Cologne rubber manufacturer, is a director in the company owning and operating the German Atlantic cable, besides being connected with the company which will make the new cable. The government will pay an annual subsidy of 1,710,000 marks (=\$406,980) for forty years.



THE LATE JOHN W. MACKAY.

LONDON, June 11, 1902.



MID-SUMMER OUTING OF THE NEW ENGLAND RUBBER CLUB.

“RAIN or shine” was the watchword of the members of the New England Rubber Club on the afternoon of July 22, as they wended their way toward the magnificent estate owned by the Country Club in Brookline, near Boston. Nobody believed that it would rain, yet all of them carried umbrellas. So optimistic were they, however, that the spiders’ webs on the grass and the low flying swallows were cited as proofs that it could not rain that afternoon—nor did it. The excursionists came from all over New England, and centered at a pretty little pagoda like house at Heath street, in Brookline, from which they were speedily transferred to tally-hos and barges, and in a brief seven minutes drew up before the old colonial mansion which is the home of the Country Club. As each carriage appeared, Towne’s orchestra, on one of the broad verandas, struck up the most inspiring music, in earnest of the good time that was in prospect. To digress a moment, the Country Club, which was thrown open to the New England Rubber Club through the kindness of Mr. Arthur W. Stedman, a prominent member in both organizations, is the pioneer organization of its kind in the United States. It is rich, exclusive, and progressive, has model tennis and squash courts, golf links, bowling greens, and race track, together with equipment for indoor games, such as ping pong, pool, and the like. It has every modern convenience, including a magnificent dining hall, and a corps of waiters that are unexcelled, all under the direct charge of Superin-

tendent George H. Kelton, a well known Harvard man and a famous athlete.

The feature of the afternoon was the golf tournament, for which the most careful arrangements had been made in the way of fair handicaps, pairing of players, and the presence of plenty of caddies. Incidentally, rubber manufacturers generously came to the assistance of the Sports committee and donated golf balls, enough for double the number of players, for there were presented, three dozen “Forsyth,” three dozen “Stoughton,” and five dozen “Haskell” balls. The following gentlemen entered the golf tournament, their handicaps being—

NINE HOLE MEDAL PLAY HANDICAP GOLF TOURNAMENT.

<i>Members.</i>		Hand. Gross Net		Hand. Gross Net	
R. E. Paine....	0	46	46	F. B. Rickaby.....	6 45 39
F. D. Balderston....	0	49	49	Harold W. French ..	8 58 50
F. H. Jones.....	0	45	45	E. E. Wadbrook....	10 72 62
A. O. Bourn, Jr....	0	60	60	John E. Page.....	10 52 42
W. E. Barker.....	2	50	48	W. J. Kelley.....	12 52 40
W. J. Swazey.....	2	43	41	J. H. Stedman.....	12 62 50
W. L. Pitcher.....	2	58	56	<i>Visitors.</i>	
A. H. Brown.....	2	51	49	E. H. Litch.....	53
S. Lewis Gillette ..	4	56	52	A. L. Aldrich	49
C. A. Morss, Jr....	6	56	50	Newton Crane	52
William Keyes.....	6	52	46	W. H. Palmer	75
O. A. Barnard.....	6	52	46		

For those who did not play golf there were other games. For example, Messrs. John J. McGill, O. A. Barnard, E. Bliss, and George Barrett elected to exercise themselves at the old



CLUB HOUSE OF THE COUNTRY CLUB AT BROOKLINE.

fashioned game of bowls, the umpire being Mr. Patterson. As might be expected, the Canadian member, Mr. McGill, proved himself to know more about the game than any of the others, and won, the score being 30. While the bowling was at its height two baseball nines were organized, W. E. Parker being the captain of one which was known as the "Big Bluffs," while F. D. Balderston was captain of the "Little Bluffs," with James L. Garvin for umpire. The following were the players:

"BIG BLUFFS."

Capen, catcher,
Barker, pitcher,
Greene, first base,
Barnes, second base,
Barrett, third base,
Barnard, short stop,
Miller, left field,
Austin, center field,
Palmer, right field.

"LITTLE BLUFFS."

Allen, catcher,
Balderston, pitcher,
Pearson, first base,
Stevens, second base,
Williams, third base,
Smith, short stop,
Paine, left field,
Tingley, center field,
Brown, right field.

Three innings were played, the score being 2 to 2. The game was full of interesting plays and marvelous decisions, and characterized by a series of failures to catch high flies and to hit low balls, that convulsed the on lookers.

While the ball game was in progress the Boston *Herald* sent a very courteous representative, Mr. R. F. Hall, with a special photographer, who desired to get a likeness of the officers of the Club. None of the directors were to be found, but the rest of the active officers grouped themselves on the steps of the clubhouse,

and, sustained by encouraging and admiring comments of a jolly crowd, passed safely through the ordeal. A little later, golfers, ball players, bowlers, and all who could be quickly gathered, arranged themselves on a knoll and a very good picture of the majority of those present was secured by Photographer Chickering. About 5.30 the showers that had been promised came, and the Dinner committee were saved the trouble of rounding up the scattered members for the evening's banquet. The dinner was one of the best that the Club has yet had, and embraced the menu presented on this page.

The tables were very tastefully decorated, the orchestra playing familiar selections while the Club dined, and the members joining heartily in singing many of the popular favorites. After the cigars and coffee, the president, Governor A. O. Bourn, called the feasters to order and displayed the golf prizes, which had been placed on the table just in front of him. These were four very beautiful black oak steins trimmed with solid silver, made by "the Tiffany of Boston," N. G. Ward & Sons—three of them being for members of the club and one for visitors. The follow-



FIRST GOLF PRIZE.



SECOND PRIZE.

[Visitors' Prize same as the Second Prize.]



THIRD PRIZE.

MEMBERS OF THE CLUB WHO WERE PRESENT. WITH THEIR GUESTS.

MEMBERS.

L. D. Apsley
C. B. Allen
E. H. Appleton
C. B. Archer
A. O. Bourn
A. H. Brown
W. E. Barker
F. D. Balderston
O. A. Barnard
Ira F. Burnham
W. D. Brackett
Charles W. Barnes
A. L. Comstock
J. S. Capen
Isaac Crocker
Frank T. Carlton
W. A. Daggett
R. D. Evans
George P. Eustis
C. F. Edgarton
George W. Forsyth
John H. Flint

GUESTS.

E. W. Cutter

A. O. Bourn, Jr.
W. H. Palmer
F. L. Smith

T. A. Forsyth

MEMBERS.

H. W. French
W. M. Farwell
W. H. Gleason
S. Lewis Gillett
D. N. Graves
N. Lincoln Greene
E. D. Hewius
F. H. Jones
William Keyes
W. J. Kelly
W. B. Loughton
J. H. Learned
Otto Meyer
John J. McGill
George H. Mayo
G. S. Miller
Charles A. Morss, Jr.
W. F. McClintock

James E. Odell
W. L. Pitcher
E. B. Pearson

GUESTS.

W. H. Chadwick
Charles F. Baker
A. L. Aldrich

Mr. Kellogg

Max Lowenthal
Ernest Jacoby

R. E. Paine
Wm. H. London

J. W. Green, Jr.
H. P. Allen

MEMBERS.

Henry C. Pearson
George E. B. Putnam
John S. Patterson

P. L. Rider
F. B. Rickaby
W. I. Swasey
A. W. Stedman
W. H. Stiles
George Schlosser
Thomas J. Skinner
Alonzo P. Spear
W. F. Stevens
J. H. Stedman
Charles E. Tingley

A. D. Warner
George P. Whitmore
E. S. Williams
J. F. Wheeler
E. E. Wadbrook

GUESTS.

Newton Crane
Eli C. W. Bliss
G. B. Barrett
Lawrence T. Sawyer

E. H. Litch
J. E. Dutton
J. C. Stedman, M. D.
H. S. Mann
J. Jackson Todd
R. J. Bowes
H. J. Skinner

Chas. F. Parker
T. S. Lewis

R. F. Hall
J. L. Garvin

ing were the prize winners in the golf tournament, with their scores:

First Prize—F. B. Rickaby, of the Diamond Rubber Co. (Akron, Ohio); score 45 6-39.

Second Prize—William J. Kelly, of George A. Alden & Co.; score 52-12 40.

Third Prize—W. D. Swazey, of the Enterprise Rubber Co., score, 43-2-41.

Visitors' Cup—R. L. Aldrich, of Cobb, Aldrich & Co. (Boston); score, 49.

After the presentation of the prizes, in response to most enthusiastic calls, the Hon. L. D. Apsley, vice-president of the Club, made a short speech, being followed by Robert D. Evans,

honorary vice-president of the Club. Votes of thanks were then passed to the Country Club, to Arthur W. Stedman, and to the companies who had presented the golf balls. As the members departed, many pleasant things were said of the Sports, Dinner, and Entertainments committees, regarding the exceedingly successful occasion and pleasant time that all had enjoyed. In addition to the individuals named as active in bringing about this outing, those whose work was most evident were W. E. Barker, of the Sports committee, Treasurer George P. Whitmore, and Assistant Secretary W. H. Gleason.

The view of the house of the Country Club on the preceding page is reproduced, by permission, from the July issue of *Munsey's Magazine* (New York.)

AFFAIRS IN THE AMAZON RUBBER COUNTRY.

NO development of importance in regard to the concession for the Acre territory from the Bolivian government to an American syndicate has become known during the past month, beyond the fact that representations have been made to the United States government by the diplomatic representatives of both Bolivia and Brazil. The attitude of the government at Washington is that of refusing to take sides with either country in their controversy. The United States will stand ready, however, to safeguard any interests of American citizens which may become involved. Mention has been made already in these pages of the presence in Bolivia of an exploring party, upon the results of whose work might depend the further action of the Bolivian Syndicate. The botanist of this party is Robert S. Williams, of the New York Botanical Garden, who has sent word from Bolivia that he expects to reach New York in September or October.

* * *

It is not in the nature of things that the vast rubber resources which lie partly in Bolivia and partly in Peru should much longer remain almost undeveloped. It is natural, however, that Brazil, which so long has maintained a practical monopoly of the business of supplying the world with "Pará rubber," should fail to regard with friendly eyes any effort to exploit the resources of regions which might become her rivals in this trade. The attention of the world has been attracted lately by Brazil's strong protest against the carrying out by Bolivia of a contract made with an American citizen with a view to the development of the Acre district. Brazil, by the way, is in a position similarly to thwart every effort which Bolivia may make to utilize her sole existing water outlet to the seaboard—namely, by the Amazon. It has been a part of the plan involved in the Acre concession to improve the means of reaching the Amazon from the principal rubber district in Bolivia, by diverting the trade which now reaches the Amazon only through the badly obstructed Madeira, to rivers which flow into the Amazon without obstruction—by constructing either short canals or railways.

In spite of Brazil, this new rubber district is bound to be reached, in view of the growing demand for its supplies, and that country now appears to be taking steps to use the force of her favorable geographical position to exact a profit from any future output from the Amazon regions beyond her own borders. The United States consul general at Rio de Janeiro, Mr. Eugene Seeger, reports to his government that Dr. Souto Maior, professor of geography in the National University at Rio (who studied for six years in the United States), has secured from the Brazilian government for a period of twenty-five years the exclusive control of navigation on the Madeira from Santo An-

tonio to the Bolivian border, at the mouth of the Béni river with the privilege of levying tolls. Navigation is free on the Amazon, and on its affluent the Madeira up to San Antonio, but from there to the Bolivian frontier—a distance of 222 miles—Dr. Maior has exclusive control. He can levy a tax not only upon every pound of rubber descending the Madeira from Bolivia, but upon all merchandise sent up stream.

The avowed reason for granting this concession is that of providing for the improvement of the Madeira. The section of the river above San Antonio is broken up by cataracts, and a proposition has been revived, based upon an expert report published in 1869, demonstrating that, by constructing a series of locks and small canals, uninterrupted navigation of the river could be established. Dr. Maior has requested Consul General Seeger to call the attention of American engineers and capitalists to this matter with a view to obtaining their coöperation. Thus Brazil is in a position to control the Madeira river outlet from Bolivia and to deny privileges of navigation on that portion of the Acre which lies within her territory.

* * *

MENTION was made recently in this journal of a visit to New York of two officials of the state of Amazonas, Brazil, whose object was supposed to be the making of a loan for that state. Upon their return they stopped at Pará, where they declined to be interviewed for the newspapers on the result of their mission. A late number of the *Brazilian Review* (Rio de Janeiro) reports: "It is now said that the reported loan obtained by the state government [of Amazonas] in the United States was made to it by capitalists represented by Mr. Charles R. Flint, of New York. The amount mentioned is nominally £2,000,000, to be converted into Brazilian currency at the exchange rate of 12*d.* per milreis. The syndicate redeems the present debt of the state by paying £30 for every 5 per cent. currency bond of 1:000\$. The commission amounts to 4,000:000\$. The state government is said to have agreed to pay 8,000:000\$ for the Manáos electric tramway."

A bond of 1000 milreis, at the exchange rate mentioned, would be worth £50, and its surrender for £30 means a considerable scaling down of the state's obligations. The commission named would be equivalent to £200,000, and the price mentioned for the Manáos railway £400,000, or about \$2,000,000. This road was constructed and has been operated by the Manáos Railway Co., an American corporation organized by Charles R. Flint. The company operates fifteen miles of single track road, employing usually twenty cars, and the plant is reported to be for the most part in good condition. The company is subsidized and has exclusive rights for 30 years.

LETTERS TO THE EDITOR.

"GERMAN PRICES OF RUBBER SCRAP."

TO THE EDITOR OF THE INDIA RUBBER WORLD: The writer of a communication from London under this heading, in your issue of July 1, thinks that American manufacturers of reclaimed rubber make a big mistake in buying foreign scrap through agents. If your correspondent has ever handled any foreign scrap, I should like to ask if he ever had any invoice of goloshes on which there was not a deduction of some kind claimed, on account either of short weight, excess tare, or wrong packing of goods. I am frank to say that there is always some difference between the amount received by the reclaimer and my rendering of invoice, and it is just for this reason that the American reclaimer prefers to purchase through agents rather than direct. If he honors a draft for 100 per cent. or gives a letter of credit for that amount, he will have to make settlement with a shipper over 3000 miles away, and will be practically at the mercy, or honesty, of that party—I don't care which way you put it—to settle a claim for deduction. But in dealing through an agent he has some one on this side of the ocean to look to, to straighten matters out, and whom he can hold responsible. Evidently, your correspondent is not aware that foreign shoes *are* sold on 90 per cent. sight draft against bills of lading and in some cases 75 per cent., but I am pleased to inform him that I am taking orders on these latter terms and know of other agents who are doing so.

Your correspondent also suggests that if American reclaimers would keep the foreign dealers informed in regard to the crude rubber market, it would help to keep down prices of rubber scrap. It would seem hardly necessary in these enlightened days, when market reports are published daily in all parts of the civilized world, for consumers in one country to notify dealers in another country what the commodities those dealers handle are worth. The large German exporters of scrap rubber are wide awake business men, who know exactly what the goods they are dealing in and such as may have a bearing on these are bringing at the centers in which they expect to sell. But as a matter of fact, prices of scrap are but slightly governed by an advance or decline in crude rubber, but are controlled by the supply and demand of scrap itself.

Again your correspondent says: "The reclaimers should certainly not make any allowance for tare. I think this would be a matter for the Reclaimers' Association in America to look into." There was a Rubber Reclaimers' Association once, but it now exists only in name. Among the rules which it adopted was this:

Ninth.—Old rubber boots and shoes of foreign manufacture shall be bought on same conditions as those of domestic manufacture, *c. i. f.* port of entry.

The failure to adhere to this rule has been much discussed among consumers, the reason evidently being that, whenever one reclaimer ignores it, the others follow like a flock of sheep.

W. C. COLEMAN.

Boston, Mass., July 3, 1902.

THE COLONIAL RUBBER CO. (EUROPE.)

TO THE EDITOR OF THE INDIA RUBBER WORLD: Your British correspondent, in referring recently to the decision of the Colonial Rubber Co. to close its works at Cologne-Ehrenfeld, Germany, intimates as a fair supposition that the manufacture of hollow playing balls under the Cox patents, under

which this company hold the Continental rights, may have proved less profitable than was anticipated. As a shareholder in the Colonial company, and familiar with its affairs, I may be permitted to make a statement in regard to the same.

The company's capital being only 3,250,000 francs, with which three large rubber factories had to be kept going, and of which capital of course a fairly large proportion was sunk in lands, building, plant, and machinery, it was found that a further increase of capital would be indispensable, and steps were taken to that effect. The very unfavorable condition of the Brussels market, where enormous sums had been lost in Colonial and Russian ventures, rendered this financial operation impossible for the time being. The Ghent works of the company had been considerably enlarged during the past two years, and an ebonite department had been added. As this factory is without doubt the largest in Belgium, a considerable proportion of the company's capital had been absorbed by it.

At Prouvy-Thiant, in France, the company possesses another large factory which is constantly growing in importance, while at Cologne a "mechanical" department had been added to the ball manufacturing carried on there from the commencement of the company's operations. It seems that with this latter addition the board made a mistake; not only was the rubber trade in Germany generally in a very depressed condition at the time when this addition was made, but, particularly in western Germany, the trade is keenly competed for, and a new and foreign factory has to struggle very hard against the old established rubber concerns.

For these reasons the mechanical department was closed down, while the rubber ball manufacturing, which had always been a satisfactory feature, was continued. It was soon found, however, that this department alone could not carry the weight of the great general expense, and the board no doubt arrived at a wise decision in closing the works down and concentrating the company's capital and energy upon the Belgian and French factories. That the Cox machine and the Eccles company's patents are not to blame is demonstrated by the success which the Hartford Rubber Works Co. score in the United States, to judge from the recent repeat order for ball making machines, and from the sale of the Austrian patent of the Eccles company to the Oesterreichisch-Amerikanische Gummi-fabrik Actiengesellschaft, in Vienna.

The Eccles Rubber Co. herself, thanks to the preëminence which the English patent assures her for the ball trade in the United Kingdom, is gradually gaining a firm footing again, which she lost owing to the great break in the cycle trade during the last few years, and which affected her through the Birmingham steel fittings works, where a large share of her capital was invested.

A SHAREHOLDER.

London, June 27, 1902.

RUBBER EGG SHELLS A JOKE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In regard to a paragraph in your June 1 issue [page 288] copying a newspaper statement to the effect that I had invented an India-rubber cover for eggs, or something of that kind, I wish to say that the story was sent out from this city by a newspaper correspondent as a joke.

GROVER HARSHMAN.

Tiffin, Ohio, June 5, 1902.

SOME WANTS OF THE RUBBER TRADE.

[250] FROM a fountain pen manufacturer: "Can you give us some information about rubber firms, located convenient to New York, who might be interested in doing some vulcanizing outside of their own work?"

[251] "Will you please furnish us with the names and addresses of some manufacturers of machines for making cotton hose jackets?"

[252] "We have an inquiry regarding a brand of garden hose known as the 'Sunproof,' which withstands the summer heat of southern California and Arizona, the life of the hose being guaranteed for ten years. Can you give us the name of a manufacturer?"

[253] "Will you kindly inform us who manufactures the Fidelity brand of cotton fire hose?"

[254] We have a request from a leading bicycle agency in the city of Mexico for the names of parties able to supply "rubber coats for bicycle riders."

[255] From a rubber factory: "We should be glad to know of the best place to buy collapsible tubes for rubber cement."

[256] "Please send us the names of parties from whom we can buy prepared Pontianak, ready for use."

[257] "We should like a list of as many hard rubber manufacturers in the United States as you know, indicating such as manufacture hard rubber sheets."

[258] "Please give me the addresses of manufacturers who weave material for suspenders."

[259] "We should like you to advise us who are the makers of Caldwell's covered gas tubing."

[260] "Can you give me any information as to where I can buy the filler called 'Petrifite', mentioned in Mr. Pearson's 'Crude Rubber and Compounding Ingredients'?"

[261] "Kindly advise us from whom we can secure a varnish such as rubber manufacturers use in coating drills and sheeting, to make luster finish."

NEW TRADE PUBLICATIONS.

"THE Goodrich Rubber Man's Vacation" is the title of one of the best pictures that has yet come from the advertising department of that enterprising Akron house. It is wholly up-to-date in that the foreground of the picture shows a game of ping pong on the lawn at the Goodrich Camp. A delightful surprise comes to whoever carefully scrutinizes the faces of the beautiful women who are disposed in comfortable attitudes in hammocks and under the trees, when it slowly dawns upon them that they recognize "Helen of Troy," "Vivian," "Josephine" and others of the Goodrich beauties. The picture is in every way artistic, nor is there a suggestion of caricature in any part of it.

FRANZ CLOUTH RHEINISCHE GUMMIWAAREN FABRIK M. B. H. (Cöln-Nippes) have issued a handsomely printed brochure, for distribution at the industrial and commercial exhibition for the Rhineland and Westphalia, at Düsseldorf, describing their extensive variety of manufactures of India-Rubber and Gutta-percha. [5"×9 1/4". 34 pages.]

THE DERMATINE CO., LIMITED (95, Neate street, London, S. E.), issue, under the title "Prix Courant de Dermatine," a catalogue in French, containing illustrations and descriptions of their various products, including belting, hose, tubing, valves, etc., together with prices. This is in effect, a translation of their English list, mention of which has been made already in THE INDIA RUBBER WORLD. It includes also several pages of interesting matter on the origin of Caoutchouc and Gutta-

Percha, with maps of the rubber producing zone, and notes on the history of the industrial uses of these materials. [6"×9 1/2". 36 pages.]

TREMONT RUBBER CO. (No. 218 Congress street, Boston) issue a handsome Souvenir catalogue of the "Wales-Good-year" rubber footwear, which they carry in stock. A prominent feature of the book is a picture of their store, "The Rubber Corner," followed by several pages of interior views, giving an impression of an enormous volume of business done, and portraits of their salesmen throughout New England and some other states, from whose appearance it may be assumed that they have contributed in no small degree to building up this business. [6 1/8"×9". 32 pages.]

THE VULCANIZED RUBBER CO., who have removed to No. 110 Grand street, New York, issue, under date of July 1, 1902, a new price list of the Hard Rubber Goods manufactured by them, which forms a conveniently arranged and well illustrated booklet. [4 5/8"×8 5/8". 56 pages.]

"TALKS ON RUBBER" is an illustrated catalogue of rubber goods used for medical purposes in families or in hospitals, kept in stock at Riker's drug store in Sixth avenue, New York—an establishment which has long made a specialty of its rubber goods department, and has done much to educate its customers in the use of rubber goods of the classes referred to. The book is as fully illustrated as most catalogues of druggists' sundries manufacturers, and is provided with an index filling twelve columns. [5 1/2"×8 1/4". 144 pages.]

ALSO RECEIVED.

CONSOLIDATED Rubber Tire Co., New York=The Kelly-Springfield Tire. 12 pp.

Munger Automobile Tire Co., Trenton, New Jersey=Munger Non Collapsible Pneumatic Tires for Motor Vehicles. 12 pp.

B. F. Sturtevant Co., Boston=Bulletin 46. Mechanical Draft. What it is; what it does. 12 pp.

Parker, Stearns & Sutton, New York=Alpha and Omega Superior Rubber Specialties. 24 pp.

American Vulcanized Fibre Co., Wilmington, Delaware=Catalogue and Price List. 34 pp.

The Baumann Rubber Co., New Haven, Connecticut=Price List of Red, Velvet, and American Balls. 4 pp.

Joseph Dixon Crucible Co. (Jersey City, New Jersey)= [Folder illustrating bridges treated with Dixon's silica-graphite paint.]

"DERMATINE" AND ITS USES.

AN essentially English product, but one that is used the world over, is a compound from which mechanical rubber goods are manufactured, and known as "Dermatine". The uses to which it is put are the manufacture of belting, hose, valves, and packings chiefly. The special excellences claimed for it are that it outlasts ordinary rubber compound, and is a better resistant of acids, grease, and heat and cold. Physically, Dermatine looks very much like a vulcanized rubber compound, but of an extremely fine and close texture. It is flexible, but cannot be stretched easily, and may be made very soft or as hard as vulcanite. "Dermatine" is the invention of Mr. M. Ziegler and was patented by him prior to the establishment of The Dermatine Co., Limited, which company now has extensive works in London, under the successful management of Mr. John Cooper. The basis of Dermatine is a substitute for Gutta-percha called "gum percha". This is compounded with waste rubber, India-rubber, sulphide of antimony, peroxide of iron, sulphur, alum, asbestos, sulphide of zinc, and carbonate of ammonia, these ingredients, of course, being varied for different products.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first eleven months of the current fiscal year, compared with the same months of three years preceding—not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-April....	\$514,470	\$930,671	\$1,437,099	\$2,891,240
May, 1902....	64,102	41,387	170,349	275,838
Total	\$578,572	\$981,058	\$1,607,448	\$3,167,078
1900 01 ..	508,873	684,256	1,584,864	2,777,993
1899 00....	492,472	372,262	1,258,515	2,123,249
1898 99....	(a)	229,892	1,362,088	1,591,980

(a) Included in "All Other" prior to July 1, 1899.

Pairs of rubber footwear exported in the same periods:

1898-99.	1899-1900.	1900-01.	1901-02.
425,574	673,961	1,386,597	2,458,387

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.	1901-02.
\$343,261.	\$445,766.	\$386,396.	\$347,746

GREAT BRITAIN.

EXPORTS of rubber manufactures during January-June:

	1900.	1901.	1902.
Boots and shoes.....	£723,476	£73,261	£69,642
Unenumerated.....			
Total.....	£723,476	£622,210	£602,478

There were also exported during January-June, 1902, "Apparel and Slops, waterproofed by any process," to the value of £123,379. The number of pairs of rubber boots and shoes exported during the first six months of 1902 was 669,012, against 660,732 for the same period of 1901.

EXPORTS OF RUBBER FOOTWEAR IN 1901.

To—	Doz. Prs.	To—	Doz. Prs.
France.....	26,026	Queensland.....	3,798
Belgium.....	15,829	British Guiana.....	3,528
Turkey.....	14,803	New South Wales....	2,287
China.....	9,243	New Zealand.....	2,215
Norway.....	7,611	Victoria.....	1,803
Germany.....	7,103	South Australia.....	933
British East Indies....	6,281	Canada.....	754
Holland.....	5,611	British West Indies....	880
Cape Good Hope.....	3,657	West Australia.....	525
Denmark.....	2,539	Tasmania.....	259
Other foreign lands....	2,859	Other British Possess....	656
Hongkong.....	13,705	Total [Doz. Prs.]....	138,084
Natal.....	5,059		

IMPORTS OF RUBBER FOOTWEAR IN 1901.

FROM—	Doz. Prs.	FROM—	Doz. Prs.
Germany.....	57,946	Other foreign lands...	70
Holland.....	1,124	Canada and Brit. Possess.	7,244
Belgium.....	657	Total [Doz. Prs.]....	229,191
France.....	10,344		
United States.....	151,806		

PROFESSOR PROBST, a native of Geneva (Switzerland), is the inventor of a swimming suit which is made largely of India-rubber. It can be put on very quickly and is so buoyant that nearly one-half of the body remains above the water. The suit is provided with a number of conveniences in the way of water tight pockets, which may contain food, matches, lamp, etc. The professor plans to live the whole month of August in the water, wearing his suit. He will then go to Havre to remain fifteen days in the sea.

FRENCH CONGO exported 1,444,819 pounds of Caoutchouc in 1900 and 1,440,423 pounds in 1901.

RUBBER NOTES FROM EUROPE.

THE plan for the amalgamation of W. T. Henley's Telegraph Works Co., Limited, and Callender's Cable and Construction Co., Limited, both of London, mentioned in THE INDIA RUBBER WORLD of March 1, 1902 (page 169) has been dropped, owing to the difficulty of arriving at a mutually satisfactory valuation of the properties. Both companies have been doing a profitable business, friendly relations continue to exist between them, and it is not improbable that the question of amalgamation may again be taken up. The Henley works earned £64,447 19s. 9d. on the business of 1901, and Callender's £71,978. Each company was able to declare a dividend of 20 per cent. on their ordinary shares, after providing for the preference share dividends and interest on their debentures. At the annual meeting of Henley's it was stated that it might be necessary before long to increase their capital from £175,000 each of preference and ordinary share capital, to £200,000 each. The profits for the last year were stated to have been larger than ever before, in spite of increasing competition from Germany and from the United States.

=The Rheinische Gummiwaaren-Fabrik, Franz Clouth, m. b. H. (Cologne-Nippes) have a notable exhibit at the Düsseldorf exhibition, in the Mining building. In the hall situated to the left of the dome has been set up a figure of a diver fully equipped with all the necessary apparatus for diving work. An exhibit of waterproof tent and roofing materials is made by this firm in the section of the building to the right of the dome.

=Dr. Robert Henriques, a German chemist of ability, died on June 16, at Bayreuth, after a long and severe illness. The deceased for some years was on the staff of the *Gummi Zeitung* (Dresden) and was the founder of the *Chemische Revue* (Berlin), and through these and other channels published the results of many scientific researches bearing upon India-rubber.

=The *India-Rubber Journal* (London) contains a note on the bad behavior of some hose used at a recent disastrous fire in London, pointing to the conclusion that the authorities must have been very negligent in looking after the condition of the supplies in their care. Mention is made of the North British Rubber Co., Limited (Edinburgh), having been awarded a contract for hose for the London fire brigade for the ensuing year at £6 2s. 7d. for 50 foot lengths, as against £7 10s., the contract price of last year. These figures are equivalent to 64½ and 70 cents, respectively.

=The Süddeutsche Kabelwerke-Actiengesellschaft (Mannheim), with 3,000,000 marks capital, closed their account for 1901 with a deficit. In November, 1901, they acquired shares amounting to 400,000 marks in the Mannheimer Telegraphendrahth- und Kabelfabrik, with 1,000,000 marks capital, and members of each firm became directors in the other. The second company named also closed the year with a deficit.

=The German imperial railway directorate, at Berlin, on May 30 opened tenders for rubber supplies, as follows: *Hose*—8468 pieces for brakes; 2347 pieces for tender use; 4100 pieces for wetting coal; 13,030 pieces for steam heating; 2460 kilograms for gas leaders; 7995 meters (rubber lined hemp). *Sheet rubber*—10,045 kilograms. *Rings*—38,230. *Rubber* covering for steps—500 kilograms.

=The report for 1901 of the Hamburg South American Steam Navigation Co. states that the monthly service of their steamers from Europe to Pará and Manáos, entered into jointly with the Hamburg American Packet Co., were not productive of profit, but the directors are hopeful of their proving successful eventually.

NEWS OF THE AMERICAN RUBBER TRADE.

A GOLF BALL PATENT INFRINGEMENT SUIT.

THE Haskell Golf Ball Co., the owner of the Haskell and Work golf ball patent, and The B. F. Goodrich Co., the sole licensee for the United States under the patent, have entered suit against The Kempshall Manufacturing Co. for alleged infringement of the patent—No. 622,834, dated April 11, 1899. The suit is brought in the United States circuit court for the southern district of New York. The bill of complaint was filed on July 2, 1902, by Charles Neave, of Richardson, Herrick & Neave (New York), attorneys. The defendant must enter appearance on the first Monday in August. It is understood that John R. Bennett, of New York, is counsel for the defendant. The Haskell Golf Ball Co. was organized early in 1901 under the laws of the state of Ohio, with Coburn Haskell as president; Bertram G. Work, vice president; and Silas Hitchcock, treasurer. The Haskell golf ball was the joint invention of Messrs. Haskell and Work, at a time when the solid Gutta-percha ball was accepted as the best type of golf ball. The invention was not only a radical departure from the old methods of manufacture, but was in other ways a distinct advance, and was the result of many experiments and tests on the part of the inventors. The fact that vulcanized rubber under tension took on the peculiar deadened resiliency of Gutta-percha, modified by the quickened springiness of rubber, was a fact of which the world was ignorant. It became in fact a new material, and its usefulness in golf balls and in various other articles was fully recognized by the inventors. The Haskell company and the B. F. Goodrich Co., being fully aware of the value of the invention, have no idea of allowing any one to infringe their rights.

SUIT AGAINST AN ALLEGED SHOE-LAST MONOPOLY.

THE Hood Rubber Co. has filed suit in the United States circuit court at Boston against the United States Rubber Co., E. D. Stone, of Framingham, Massachusetts; the Apsley Last Co., the Middlesex Last Co., the George B. Cox Last Co., and the estate of William H. Corey, former owner of the Brockton Last Co. The bill of complaint alleges that the United States Rubber Co. entered into an agreement with the various last companies co-defendants in the suit, to secure the exclusive use of the various rubber shoe lasts manufactured by them for the benefit of the United States company and its subsidiary companies, such agreement being alleged to be contrary to law and tending to restrict trade. The alleged combination in restraint of trade is claimed to have existed from April to January of the year in which the Hood Rubber Co. was in process of organization, and the suit is in the nature of a claim for damages. From the standpoint of the United States Rubber Co. the suit seems to be viewed in the light of an offset to several pending cases against the Hood company by the United States company, one being for an alleged infringement of patent and another against Mr. Hood personally for alleged breach of contract in leaving the United States company and starting a competing factory.

COLONEL COLT TO THE "CAPTAINS OF INDUSTRY."

JUST before starting for a vacation in Europe, Colonel Samuel P. Colt, president of the United States Rubber Co., tendered an elaborate luncheon to a number of gentlemen interested in the rubber shoe industry, at the Squantum Club, near Providence, Rhode Island, on the afternoon of July 1.

There were present the entire board of the United States Rubber Co., several gentlemen connected with the general offices of the company, and some of the directors of the constituent companies. But a feature which was emphasized especially was the presence of the superintendents of all the factories operated by the United States company. It was to the latter that Colonel Colt, the principal speaker on this occasion, addressed his *post prandial* remarks. He said in substance that the executive officers of the company might plan and counsel, but after all the success or failure of their undertaking depended on the superintendents of their mills. It was to them that the company looked for the manufacture of the goods they sold. "There are two things we can call on them to do," said Colonel Colt. "How are we to meet competition, not to crush it, but to do as well as, and a little better than, our competitors? Who can do the most in that line? It is the superintendents of our mills. We want them to produce the best article at the lowest price. We want them to save in every way but one, and that is at the expense of the quality of the product." Colonel Colt expressed himself as a believer in industrial consolidation, which, he said, had come to stay. Successful business in every line would have to be done on a large scale. The ambition of the company should be to supply every man, woman, and child in the United States—and some in Europe—with rubber footwear, and he believed that with the coöperation of the superintendents of their factories—"the captains of our industry" Colonel Colt called them—the company would be able to come so near the result they wanted that everybody concerned would be surprised. One other thing Colonel Colt said was that the United States Rubber Co. to day had the best men in the rubber business in the United States; they had no superior, and he believed they had no equal.

Further remarks were made by Superintendents A. L. Comstock, of the American Rubber Co.; Frank L. Locke, of the Boston Rubber Shoe Co.; and James Deshler of the factory at New Brunswick, New Jersey; Harry H. Shepard, manager of the National India Rubber Co., and several gentlemen connected with the office management of the United States company.

Colonel Colt sailed for Europe from New York on July 5. On the evening of July 4, a little celebration in honor of his departure was given at his residence in Bristol, the program including a band concert, a display of fireworks, and a dinner at the house.

A NEW RUBBER FACTORY FOR TRENTON.

THE retirement of George R. Cook as treasurer and general manager of The Empire Rubber Manufacturing Co. (Trenton, New Jersey), the details of which were reported in the last INDIA RUBBER WORLD, has been followed by the organization of a new company in that city of which Mr. Cook will be the head. The Eureka Rubber Manufacturing Co. was incorporated July 15, under the laws of New Jersey, with an authorized capital stock of \$500,000. The company will begin business with a paid in capital of \$200,000, subscribed for by the incorporators in the following amounts: George R. Cook, \$92,500; Barker Gummere, Jr., \$40,000; Edmund D. Cook, \$32,500; William S. Hancock, \$20,000; Elmer Ewing Green, \$15,000. The officers elected are George R. Cook, president; William S. Hancock, vice president; John A. Lambert, secretary; Edmund D. Cook, treasurer. The site selected for the new factory is on

East State street, beyond the city line. Orders have been placed for the machinery, and the building will be designed to fit the mechanical equipment, all with the idea of having the new plant in operation at the earliest date possible. The new factory will be devoted to the production of mechanical rubber goods.

A VISIT FROM MR. BUCKLETON.

MR. ERNEST E. BUCKLETON, general manager of the Northwestern Rubber Co., Limited, Litherland, Liverpool, England, made a flying trip to the United States in July, returning by the *Oceanic* on the 23d. Mr. Buckleton is, as of yore, earnest, energetic, and full of geniality. The samples of reclaimed rubber in black, tan, and red, that he showed as a product of the Liverpool works are wonderful, and his statement that European manufacturers are already large buyers is easily credited. During the past year Mr. Buckleton, in addition to his duties at Liverpool, has visited nearly every rubber factory in Great Britain and on the Continent.



ERNEST E. BUCKLETON.

A PRIZE EXHIBIT OF FIRE HOSE.

At the convention of International Association of Fire Chiefs, to be held at the Grand Central Palace, New York city, commencing September 16, the Eureka Fire Hose Co. (New York) will make practically the same exhibit as they did at the Pan-American Exposition, at Buffalo, and for which they were awarded a gold medal. They will also exhibit the following medals:

For Premier Honors, Centennial Exposition . . . Philadelphia, 1876
American Institute New York
Decorative Legion of Honor and Gold Medal Paris, 1878
Gold Medal Barcelona, 1888
Gold Medal, Pan-American Exposition Buffalo, 1901

AMERICAN BICYCLE CO.

It is currently reported that Colonel Albert A. Pope will succeed R. L. Coleman as president, shortly after the beginning of the current fiscal year, which dates from August 1, and that several other changes will be made in the board of directors. The annual meeting will occur in October.

RUBBER GOODS MANUFACTURING CO.

THE New York *Journal of Commerce* reported, July 26: "Wall Street had a rumor yesterday to the effect that the control of Rubber Goods Manufacturing Co. had passed into new hands, but this was officially denied. The report probably grew out of the fact that the stocks of the company on the Stock Exchange scored a substantial advance."

AMERICAN CHICLE CO.

THE annual meeting of stockholders was held at Jersey City, New Jersey, on July 15. The old board of directors was re-elected and the directors re-elected the retiring officers. The board is now composed of W. J. White (president), G. H.

Worthington (vice-president), Henry Rowley (secretary and treasurer), Thomas Adams, Thomas Adams, Jr., E. E. Beeman, S. T. Britton, W. B. White, J. P. Primley, T. J. Jefferson, Charles R. Flint. The financial statement made is understood to have been favorable, but no details were given out for publication.

LATIMER TIRE AND RUBBER MANUFACTURING CO.

THE assets of this company, at Huntley, near Chicago, were sold at auction on June 18, by order of the United States district court, the company having gone into bankruptcy. The amount realized was \$2335.60. As advertised by the receiver, the assets included "about \$2000 worth of rubber tires," retaining wire, channels, friction cloth, rubber shoddy, whiting, etc., together with "1/4 ton gum mill, 1/8 ton gum mill, one washer," iron vulcanizer, 40 molds, tire setters, shafting, pulleys, belting, etc. The company owned a patent on a "compound spring" solid rubber tire, which was illustrated in THE INDIA RUBBER WORLD [January 1, 1901—page 121] and was incorporated under the above title April 30, 1901, with \$25,000 capital, to manufacture this tire and a general line of rubber goods. This item was inadvertently omitted from our last issue.

A LARGE ORDER FOR FIRE DEPARTMENT HOSE.

THE Eureka Fire Hose Co. (New York) recently secured an order for 31,500 feet of cotton rubber lined fire hose from the New York city fire department. It embraces 2000 feet 1 1/2 inch "Paragon" brand; 8000 feet 2 1/2 inch, 8000 feet 3 inch, and 2000 feet 3 1/2 inch "Eureka" brand, for the boroughs of Manhattan and the Bronx. Also, 2500 feet 1 1/2 inch "Paragon" and 6000 feet 2 1/2 inch and 3000 feet 3 1/2 inch "Eureka" brand, for the boroughs of Brooklyn and Queens.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jun. 21	340	15	14 1/2	860	55	55
Week ending Jun. 28	860	15	14 1/2	500	54 1/2	52 1/2
Week ending July 5	450	14 3/4	14 1/4	697	55	54
Week ending July 12	700	14 3/8	14 1/2	700	55	55
Week ending July 19	500	14 3/4	14 3/8	400	55	55
Week ending July 26	1200	14 7/8	14 1/2	400	55	55

RUBBER GOODS MANUFACTURING CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jun. 21	480	20 1/2	19 3/4	265	65 3/4	65 1/2
Week ending Jun. 28	1,000	18 1/2	18 1/2	100	66 3/8	66 3/8
Week ending July 5	200	18	17 1/2	....	....	....
Week ending July 12	2,200	19 1/4	17 1/2	200	68	66 1/8
Week ending July 19	....	....	....	100	68	68
Week ending July 26	1,740	19 3/4	17 1/2	400	68	63

NEW INCORPORATIONS.

THE Eureka Rubber Manufacturing Co. (Trenton), July 15, under New Jersey laws, to manufacture mechanical rubber goods; capital, \$500,000. Incorporators: George R. Cook, Edmund D. Cook, Barker Gummere, Elmer Ewing Green, and William S. Hancock, all of Trenton.

=Des Moines Rubber Co. (Des Moines, Iowa) July 1, under the laws of Iowa; capital \$25,000, paid in. To succeed to the business of A. B. George & Co., wholesale dealers in rubber boots and shoes. The directors are: A. B. George, of Des Moines, and H. H. Perrin and Homer E. Sawyer, of the United States Rubber Co. The business will be continued at the present location, No. 307 Court avenue, under the management of Mr. George.

=The Gum Carbo Co. (Beaumont, Texas), July 19, under Texas laws; capital, \$10,000,000. Incorporators: Robert Bowie, Chicago, Illinois; W. F. Frue, Biloxi, Mississippi; R. E. Humphreys, Tom C. Swope, and George C. Waddill, of Beaumont. The purposes of the company, for manufacturing a substitute for rubber by refining Texas petroleum and combining with it cottonseed oil, have been referred to already in THE INDIA RUBBER WORLD.

=Newark Rubber and Specialty Co., July 25, under New Jersey laws; to job and manufacture rubber goods, including druggists' sundries; capital, \$100,000. Incorporators: John E. Halen, Frederick C. Fischer, Solomon Feist. Principal office: No. 36 Lawrence street, Newark, N. J. It is intended to establish offices in New York, Buffalo, and Philadelphia.

TRADE NEWS NOTES.

THE Hood Rubber Co. (Boston) filed an official certificate on July 1, with the commissioner of corporations of Massachusetts, to the effect that their paid up capital stock had been increased from \$800,000 to \$900,000.

=The office equipment at the factory of the Boston Woven Hose and Rubber Co. (Cambridgeport, Mass.) has been increased by the establishment of two new telephone lines, making a total of four long distance telephone connections and twenty branch lines connecting the various departments in the plant. A branch of the Postal Telegraph Co. has also been established at the factory offices. The company are to be congratulated on having completed the largest and best year's business ever done by them.

=John Robson, who for some time past has been superintendent of the "Alice" and Millville rubber factories, has been appointed general superintendent of the Woonsocket Rubber Co., in which capacity he will continue to have charge of both mills. George Schlosser, whose duties have been confined hitherto to the "Alice" mill, has been given the title of superintendent, with supervision of both factories.

=The Diamond Rubber Co. (Akron, Ohio) on July 4 sent to their tire customers a souvenir card, with a firecracker attached, together with the statement: "We regret to state that Diamond tires *will not explode*, so we enclose a cannon cracker to make up for the loss."

=Charles A. Coe is again in Boston, and is at present taking the place of the late H. H. Perrin at the office of the United States Rubber Co., in charge of the sale of the "Wales Good-year" brand of rubber footwear.

=Frederick Cook, for seventeen years treasurer of the Woonsocket Rubber Co., has resigned, and the position has been accepted by Clarence H. Guild, who will retain also his office as secretary of the company. It is understood that the retirement of Mr. Cook was due to the removal of the company's office headquarters from Providence, where he lives, to Woonsocket.

=William F. Askam, general superintendent of the U. S. Rubber Reclaiming Works, has removed his residence to Buffalo, New York, where the company have established their new plant.

=M. H. McColm, who had been identified with the Eureka Fire Hose Co. (New York) for several years, and was latterly in charge of their Boston office, resigned his position with the company, to take effect on July 15, on account of ill health.

=Two 100 H. P. boilers for the Alabama Tube and Iron Co. (Helena, Alabama) are in process of construction at the works of the Hazelton Boiler Co. (Rutherford, New Jersey). Additional boilers have been ordered by many of the Hazelton company's old customers—a sufficient commentary on the quality of the work.

=The National India Rubber Co. (Bristol, Rhode Island), who maintain an efficient mill fire department, have decided to use their factory whistle, instead of a bell, as a signal for fires and for practice drills, for the reason that the whistle can be better heard throughout the factory.

=The award for supplying 6000 pounds of rubber bands for the United States post office department and the postal service, for the fiscal year beginning July 1, 1902, was made to The Seamless Rubber Co. (New Haven, Connecticut). Ten firms, of whom six were manufacturers, submitted thirteen bids, three of the bids being for higher priced goods than "standard." The bid accepted was 34 per cent. lower than the highest bid made; 12 per cent. lower than the average of all the bids made; and 8 per cent. lower than the average for "standard" goods.

=L. S. Hoyt, proprietor of the Hoyt Rubber Co. (Boston, Massachusetts) has taken in as co-partner B. E. Phillips, Jr. The company expect to enlarge their output of work gradually into a full line of mechanical rubber goods.

=The Standard Rubber and Oil Cloth Co. (Campello, Massachusetts) are reported to have filled some orders for the British government for ponchos and other army equipment for the soldiers in South Africa, in addition to considerable orders of the same kind for the United States government. The plant operated is that owned formerly by the Standard Rubber Co.

=Mr. A. H. Overman, who is now in England, and is a member of the Clarkson & Capet Steam Car Syndicate, at Chelmsford, has just ordered by cable another set of Bailey's "Won't Slip" tires, the only tires, so he claims, that do not slip on London's wooden pavements.

=Philip McGrory (Trenton, New Jersey) has bought a quantity of rubber machinery discarded by the International Automobile and Vehicle Tire Co. in removing from Newton Upper Falls to Milltown, New Jersey, and also such of the plant of the Meyer Rubber Co., at that place, as will not be wanted by the International company. Mr. McGrory, in connection with James Norton, of Boston, has also bought a quantity of machinery from the U. S. Rubber Reclaiming Works at Jersey City.

=The new "Joint Stock Companies act" has just been passed the Dominion parliament. This allows of greater liberty in the formation of companies than the Canadians have in the past enjoyed.

=Fire from an unknown cause in a storehouse of the Reading Rubber Manufacturing Co. (Reading, Massachusetts) caused damage to the amount of \$1100, on July 17.

=Mr. Townsend Cocks has been elected treasurer of the New Jersey Car Spring and Rubber Co. (Jersey City), succeeding Mr. Charles P. Cocks.

=Mr. C. H. Arnold, of Reimers & Co. (Boston, Mass.), who is taking a trip over the Northern Pacific road, will be on the Pacific coast by the time this reaches readers of THE INDIA RUBBER WORLD, and a week or ten days later he will be in Boston.

=Mr. W. B. Smith Whaley, of Boston, who is an expert in electrical power transmission, and has already paid considerable attention to problems in equipping rubber mills, has organized a \$10,000,000 company in the West, which is planning to erect the largest cotton mill in existence.

=Mr. A. H. Alden, president of the New York Commercial Co., is again at his offices in the Dun building, having returned from abroad the middle of the month.

=Mr. George A. Wies, treasurer of the Eureka Fire Hose Co., New York, is confined to his home by a slight illness.

=The Boston Belting Co. have issued a neat folder devoted to Fire Hose for factory and mill protection, that will interest those who buy goods in this line.

=On the New York Stock Exchange July 29 common stock of Rubber Goods Manufacturing Co. sold up to 22 and preferred to 70. Within a month these shares had sold as low as 18 and 66½, respectively.

=A dividend of 1 per cent. on the common stock of the American Chicle Co. will be payable August 10.

=The factories of the Boston Rubber Shoe Co. were closed on July 30 for two weeks.

PERSONAL MENTION.

THE Hon. Elisha S. Converse, president of the Boston Rubber Shoe Co., celebrated his eighty second birthday at his home in Malden, Massachusetts, on July 28. The immediate members of his family and relatives gathered for a family dinner, and Mr. Converse received the greetings of hundreds of callers.

=Mr. Edward B. Kelley, of the Mechanical Fabric Co. (Providence, Rhode Island), has returned from a vacation in England.

=On the retirement of Mr. John J. McGill as general manager of a Canadian Rubber Co. of Montreal, he was presented by the employes with an illuminated address testifying to their regret at his departure, to which Mr. McGill made an appropriate response.

=Mr. H. D. Warren, president of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, reached New York on the *Oceanic*, July 16, after an absence in Europe of several months.

=Captain John J. Farley, recently elected commander of Company C, second regiment of infantry, Rhode Island militia, was presented with a uniform by his associates in the druggists' sundries department at the National India Rubber Co.'s factory.

=Mr. Fred. T. Alden, of the Boston Belting Co., won first prize in the Fourth of July parade at Winthrop, Massachusetts, on the occasion of the town's semi-centennial celebration.

=Mr. George Puchta, president of the Queen City Supply Co. (Cincinnati, Ohio), agents for the Boston Belting Co., has been elected president of the Business Men's Club, of that city.

=Miss Ida Pauline Towner, daughter of Mr. H. N. Towner, of the leading rubber goods house at Memphis, Tennessee, is making a tour of Europe this summer.

=Mr. Theodore S. Bassett, president of the U. S. Rubber Reclaiming Works, was not able to attend the summer outing of the New England Rubber Club, owing to illness.

=The Hon. E. S. Converse has sent to the Editor of THE INDIA RUBBER WORLD, some verses on the Converse park in Malden, known as "Pine Banks." These verses were written by a day laborer who lived in the vicinity and whose sudden advent as a poet not only surprised all who knew him, but delighted them as well with the excellence and smoothness of his rhyme.

OBITUARY.

JOHN L. SHEPARD, foreman of the clothing department of the factory of the National India Rubber Co. (Bristol, Rhode Island) for nearly twenty-five years, died July 10 as the result of strokes of paralysis experienced earlier in the month. Mr. Shepard was born at Cold Spring, Connecticut, August 23, 1845, and became connected with the National factory at the age of twenty-one. Last Autumn he became lessee of the D'Wolf Inn, at Bristol, which he managed in addition to his business at the rubber factory. He leaves a son, Charles R.

Shepard, who resided with him. He was a member of the Masonic organizations at Bristol.

=Harry Harrington Perrin, of Boston, died July 14 in a private hospital at Brookline. He was born at Roxbury in 1856, and after leaving school was engaged successively in Boston, New York, and St. Joseph, Missouri, in the leather and shoe trades. He left the latter city to become connected with the Boston office of the United States Rubber Co., as assistant to Chester J. Pike, and later became connected with the firm of Converse & Pike, since which time he has been treasurer of the Tremont Rubber Co. (Boston). Mr. Perrin lately took charge of the sale of the "Wales-Goodyear" goods, and while out West in this connection, in April last, he became ill at St. Joseph, and never afterward recovered his health.

=The many friends of Mr. Henry J. Doughty, of Providence, Rhode Island, general manager of the Atlantic Rubber Shoe Co., will be grieved to learn of the blow that has fallen upon him in the death of his son, a youth of twenty.

VULCANIZED RUBBER CO. TO HAVE A NEW PLANT.

THE Vulcanized Rubber Co. (formerly the Goodyear Vulcanite Co.) have purchased ground near their present location at Morrisville, Pennsylvania, upon which they will at once erect a new plant. Their plans include the erection of four two story buildings, each 40×275 feet, and the expenditure of \$300,000, including the cost of new machinery.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Delay on the part of the city officials in vacating the land ceded some time ago to the Goodyear Tire and Rubber Co., has retarded work on the new building planned by this company for that site. It is expected, however, that ground will be broken the first week of August. Revised plans for the new structure provide for a building 300×60 feet, and three stories high above the basement. When completed, General Manager Seiberling states, the addition will make room for 100 more employes, who will be needed on account of the contemplated expansion of the company's business.

The Colonial Tire and Rubber Co., composed of Akron men, and who control the European trade outside of Great Britain for the Swinehart solid rubber vehicle tires, have established agencies at Berlin, Vienna, and Nice, and arranged for one at Brussels. The company have received a proposition from a French manufacturer looking to the control of the trade in these tires in that republic. A member of the company states that 3½ inch tires is the size mostly in demand.

Francis Seiberling, for himself and others, purchased at an assignee's sale on July 14, for \$25,700, the factory of The J. F. Seiberling & Co., used originally in the manufacture of mowers and reapers, and occupied subsequently by a bicycle concern now out of business in Akron. It is reported that a new rubber company will occupy the building, but Mr. Seiberling states that his associates are not yet ready to make their plans public.

It is said to be likely that the Faultless Rubber Co. will establish a branch factory at Ashland, Ohio. The company have recently closed contracts for goods in excess of the present capacity of their plant in Akron, and have received a proposition to occupy a manufacturing building at Ashland now idle, which is owned by H. B. Camp, of Akron, president of the Ashland and Wooster railroad, and also interested in the Faultless company.

The Goodyear Tire and Rubber Co. are preparing to manu-

facture the golf ball recently patented by A. T. Saunders, of Akron. The principle of this law is pneumatic, and the chief problem in its manufacture has been in filling the balls with compressed air. This obstacle has been overcome, however, and the ball will be placed on the market this season.

The Akron parties mentioned in connection with the establishment of a mechanical rubber goods factory at Cuyahoga Falls, Ohio, with \$50,000 capital, have permitted an option secured on a likely site to expire.

General Manager Harvey Mitzell, of the Pure Gum Specialty Co., at Barberton, has been in the East, buying additional machinery for the new buildings erected by that company.

The Diamond Rubber Co. have completed their experiments with the "King William" golf ball, and are ready to market it. The new ball does not show black when chipped, and possesses other merits which are expected to bring it into demand.

Superintendent A. H. Marks, of the Diamond Rubber Co., has become an enthusiastic *chauffeur*, and now owns the fastest automobile in Akron. Mr. F. A. Mason, general manager of the Akron Rubber Works, has also given up his team for a small and pretty carriage which requires no horses.

Secretary Charles W. Seiberling, of The Goodyear Tire and Rubber Co., is spending the summer at his cottage near Mackinac, in northern Michigan. General Manager F. A. Seiberling will also be there for some time during the month of August.

Treasurer A. H. Noah, of the Diamond Rubber Co., will spend part of August in pursuit of bass at Star Island.

Mr. H. C. Corson, formerly of The B. F. Goodrich Co., continues to manifest an interest in Akron affairs, having lately made a generous subscription to the funds of the Young Men's Christian Association. The names of several rubber manufacturers appear on the list.

THE OBISPO RUBBER PLANTATION.

A FAVORABLE report is made by Mr. Maxwell Riddle, of the Republic Development Co., who are in charge of the plantation above named, on the Vera Cruz and Pacific railroad, near Tuxtepec, in the state of Oaxaca, Mexico. A large amount of land had been cleared and cleaned, all of which, it was expected, would be planted to rubber by August 1, thus giving the new planting the advantage of the best growing time of the year. When this property was opened a fairly good market was expected for what are known as "short crops," such as corn and beans. The success of this part of the company's operations has exceeded all expectations. The plantation is located on the navigable Obispo river, which furnishes communication with the plain country below and the hill country above, and there are in the neighborhood several large towns. As soon as it became known that large crops were being grown on the plantation, it became a central point for trading parties, with the result that everything grown, beyond what was needed on the plantation, has been sold at good prices, and the plantation has become known throughout that section as "La suerte de los Gringos" (luck of the Yankees). It has been learned that the plantation embraces about 1000 acres of exceptionally good cacao land—something not found on every plantation—and the company are planning to plant this crop extensively, as it is, next to India-rubber, the most valuable product that can be grown in Mexico. The success of this property from the beginning, made a little more than a year ago, illustrates the value of experienced management in tropical planting. The Obispo plantation has had the benefit of the combined experience of five practical planters, all of whom have gained their experience in the management of their own private properties.

REVIEW OF THE CRUDE RUBBER MARKET.

THE month of July opened with a dull market at New York, as is customary at the midsummer season of stock taking and repairs at the factories. Manufacturers seemed fairly well supplied with rubber and, in view of the exceptionally large yield of Pará for the last crop season, and the liberal extent of visible supplies, they have shown little disposition during the month to buy beyond immediate requirements. At the same time, importers as a rule have not been pressing to make sales, and thus the market has been kept fairly steady. There has been a considerable volume of sales in the aggregate of small lots changing hands, and business has been more active when sellers have been willing to grant concessions. There was some improvement in the inquiry for rubber during the third week of July, but the month ends with a generally dull condition of the market. Receipts at Pará during the month were considerably larger than for the first month of the season last year, but the Pará market is reported steady. There is still some old Pará stock in New York, but the large surplus uncovered by the liquidation of an importing company at the beginning of the year has almost been liquidated. Centrals have sold practically as fast as received at this market, while Africans have chiefly been neglected, as is to be expected when coarse Pará declines to the level which has prevailed lately. There were good offerings at the last Antwerp sales, and a slight improvement in prices, but it is understood that very little of the rubber sold was for American account. Taking the list as a whole, prices are almost without change, compared with our last report.

New York quotations on July 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	@67	Tongues.....	42 @43
Islands, fine, old....	@72	Sierra Leone, 1st quality	60 @61
Upriver, fine, new....	@70	Benguella.	42 @43
Upriver, fine, old....	@75	Cameroon ball.....	40 @41
Islands, coarse, new....	@45	Flake and lumps.....	29 @30
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	@56	Accra buttons.....	41 @42
Upriver, coarse, old....	@	Accra strips.....	47 @48
Caucho (Peruvian) sheet	47 @48	Lagos buttons.....	43 @44
Caucho (Peruvian) ball	51 @52	Lagos strips.....	47 @48
CENTRALS.		Madagascar, pinky....	@70
Esmeralda, sausage....	@51	Madagascar, black....	@49
Guayaquil, strip.....	@48	EAST INDIAN.	
Nicaragua, scrap....	@50	Assam.....	52 @53
Mangabeira, sheet....	@40	Borneo.....	30 @40

Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.	4\$200	Upriver, fine....	4\$750
Islands, coarse	2\$100	Upriver, coarse.....	3\$250

Exchange, 12 1/32d.

Last Manáos advices: (July 27)

Upriver, fine.....	4\$750	Upriver, coarse.	3\$050
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Exchange, 12 3/32d.

PARA receipts July 1 to 26: 830 tons Rubber; 240 Caucho.

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER.)

	1902.	1901.	1900.
Upriver, fine.....	70 @72	87 @90	89 @ 97
Upriver, coarse.....	55 @56 1/2	62 @64	65 @ 72
Islands, fine....	68 @70	84 @87	87 @ 95
Islands, coarse.	45 @46	47 @53	47 @ 55
Cametá, coarse	48 @52	54 @58	55 @ 66

Para Rubber Statistics (Excluding Caucho).

	NEW YORK.			Total 1901.	Total 1900.
	Fine and Medium.	Coarse.	Total 1902.		
Stocks, May 31..... tons	540	12 =	552	895	629
Arrivals, June.....	394	243 =	637	536	893
Aggregating.....	934	255 =	1189	1431	1522
Deliveries, June.....	526	250 =	776	552	919
Stocks, June 30.....	408	5 =	413	879	603

	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, May 31.....	80	150	590	2075	1350	1675
Arrivals, June.....	1240	526	1015	886	350	675
Aggregating.....	1320	676	1605	2961	1700	2350
Deliveries June.....	1255	639	1445	818	675	875
Stocks, June 30....	65	37	160	2143	1025	1475

	1902.	1901.	1900.
World's supply, June 30.....	3,272	2,760	3,034
Pará receipts, July 1 to June 30.....	26,456	23,437	26,791
Pará receipts of Caucho, same dates.....	3,514	4,203	
Afloat from Pará to United States, June 30..	284	359	108
Afloat from Pará to Europe, June 30.....	367	460	688

The Amazonas Rubber Crop—July 1 to June 30.

RIVERS.	1900.	1901.	1902.
Purús..... tons	5,520	6,016	6,750
Madeira.....	2,495	2,694	2,844
Juruá.....	2,361	2,925	3,642
Javary-Iquitos.....	1,401	1,256	1,304
Solimoes.....	1,173	1,183	1,551
Rio Negro.....	512	521	383
Total.....	13,462	14,585	16,474
Caucho.....	3,356	3,786	3,485
Grand total.....	16,818	18,371	19,959
Shipped from Manáos.....	7,621	14,596	16,627
Shipped from Pará.....	9,197	3,775	3,322

Lisbon Rubber Receipts—January-June, 1902.

[By courtesy of MARTIN WEINSTEIN & Co.]

	Benguela Niggers.	Loanda Niggers.	Congo Thimbles.	Other Sorts.	Total Tons.
1902....	496	325	31	65	917
1901.....	800	446	74	40	1360
1900.....	1349	389	102	32	1872

Balata.

LONDON, July 18.—Balata continues in fair request, but Block is scarce and dearer. At auction 50 packages offered and 26 sold, fair sheet rather rough at 2s. 4½d. to 2s. 5d; thick and dark pickings at 2s. 2d.

Balata in British Guiana.

THE annual colonial report for 1900-'01 says: "The amount of Balata collected during the year was almost double that of the previous year. Large tracts of virgin bullet tree forest was discovered, and this industry is in a very healthy condition at present." Exports in 1899-1900—237,824 pounds; in 1900-'01—425,371 pounds.

Ciudad Bolívar (Venezuela).

OFFICIAL statement of exports for two years, according to a British consular report:

	1900.	1901.
India-rubber..... pounds.	105,006	314,153
Balata.....	2,652,346	2,562,512

Through freight rates to London or Hamburg; Rubber, £5 per ton; Balata, £3 per ton.

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes.....	Domestic.....	75¢ @ 7¾
Ditto.....	Foreign.....	63¢
Pneumatic Bicycle Tires.....		6
Solid Rubber Wagon and Carriage Tires.....		7
White Trimmed Rubber.....		9
Heavy Black Rubber.....		4½¢
Air Brake Hose.....		23¼ @ 27½
Fire and Large Hose.....		21½
Garden Hose.....		1½
Matting.....		1

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sale on July 3 about 419 tons of rubber were exposed, of which 395 tons were Congo sorts. The sales amounted to 337 tons, of which 332 were Congos. Prices were practically unchanged for fine grades, such as Lopori 1, Kassais, and other well conditioned upper Congo sorts, whereas sticky lots, which were largely represented, sold at 1 and 2 per cent. under valuation. On the whole, this result, considering the time of the year, may be regarded as satisfactory. The next sale will take place on July 31, when 240 tons—all Congo sorts—will be offered. Among the principal lots, with the broker's estimations, may be mentioned:

27 tons Aruwimi.....	francs 4 90
29 " Equateur.....	6.75
22 " Uellé.....	5.75
32 " Mongalla.....	6.05
18 " Upper Congo strips.....	6.
20 " Lower Congo red thimbles.....	1.75
10 " Lopori 1.....	7.15

No sale will be held during August. The statistical summary for the first half of the year shows a decrease in importations as compared with last year of 437 tons, of which 330 tons are in Congo sorts.

C. SCHMID & CO.

Antwerp, July 10, 1902.

ANTWERP RUBBER STATISTICS FOR JUNE.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, May 30..... kilos	464,675	825,442	877,626	503,350	190,263
Arrivals, June.....	297,949	537,799	282,176	418,266	124,532
Congo sorts.....	267,026	517,896	243,308	370,822	102,747
Other sorts.....	30,923	19,903	38,868	47,444	21,785
Aggregating.....	762,624	1,363,241	1,159,802	921,616	314,795
Sales in June.....	80,954	408,662	433,426	417,619	189,130
Stocks, June 30.....	681,670	954,579	726,376	503,997	125,665
Arrivals since Jan. 1.....	2,644,808	3,081,392	3,011,463	1,848,952	866,055
Congo sorts.....	2,456,254	2,785,134	2,480,026	1,605,106	745,784
Other sorts.....	188,554	296,258	522,437	243,846	120,271
Sales since Jan. 1.....	2,377,847	2,740,852	2,577,078	1,608,295	834,853

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our last report the rubber market here has been mainly without features of interest. During the latter part of June but little animation was shown by consumers on account of the impending semi annual stock taking. The approach of the Antwerp sales on July 3 tended further to increase the reticence of buyers, and since the latter date the unstable reports from Pará have left the market without any fixed tendency. Pará fine hard cure and Bolivian fine have received little attention, while a few transactions have been made in Mollendo fine spot at M 6.50 @ 6.55. Manáos negro heads have declined in value and are offered at M 5.15 @ 5.20. Of African sorts Mozambique balls were readily disposed of at nearly full prices. Kamerun and Batanga were weak and unchanged. Holders of Massai niggers were inclined to be liberal, but transactions were con-

lined within narrow borders. Benguela niggers, however, have proved quite firm, owing to cable advices that the natives are in revolt in the interior of Angola. The Portuguese government were drumming up troops and two transports were leaving for Angola. The last steamer which had left Benguela brought but a few remnants of rubber. Late transactions have been at the following prices, in marks per kilogram:

Para fine, hard cure, <i>M</i> 6.65@6.60	Mozambique balls,
Bolivian fine old 6.80@6.85	red, mixed. 5.25@5.30
Mollendo fine 6.50@6.55	Massai niggers, red,
Orinoco, fine 6.40@6.50	fine 5.70@5.75
Orinoco, mixed 6.20@6.25	Batanga small balls 3.80@3.85
Maniós, negroheads 5.15@5.20	Gold Coast lumps 3.20@3.25
Mozambique balls,	Adelia balls, red 6.20@6.25
red, finest 6.25@6.40	Bissao balls, inferior 2.50@2.60
Mozambique balls,	Santos Mangabeira 5.30@5.35
red, fine 6.15@6.20	Colombian scrap, fine 5.20@5.25
Mozambique balls, red,	Colombian scrap,
gond 5.85@5.90	mixed and inferior 2.65@2.70

Hamburg, July 15, 1902.

Bordeaux:

ARRIVALS JUNE 1 TO JULY 15.

Soudan.....	kilos 12,150
Cassamance.....	10,500
Grand Bassam.....	4,000
Conakry.....	18,500 45,150

PRICES (FRANCS PER KILOGRAM.)

With the exception of Conakry sorts, for which prices have been well maintained, there has been a general decline. Sales have been made during the above period as follows:

Soudan sorts:	Cassamance:
Niggers, fine 6.50@6.75	A. P. 6.50
Do ordinary 5.75@6.10	A. 5.25@5.40
Do earthy 4.50@5.	A. M. 4.30@4.35
Twists, fine 6.60@6.70	B. 3.40@3.50
Do ordinary 6.25@6.50	Grand Bassam:
Mayumba 4.05	Lumps 3.70@3.80
New Caledonia 7.50	Niggers 4.80@5.20

STOCKS, JULY 15.

	Kilos.		Kilos.
Soudan twists.....	3,500	Cassamance.....	8,020
Grand Bassam Niggers.....	1,200	Java.....	1,000

P. CHAUMEL.

London.

EDWARD TILL & CO., under date of July 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts.....	tons —	—	—
{ Borneo.....	122	160	139
{ Assam and Rangoon.....	10	52	44
{ Other sorts.....	428	530	464
Total.....	560	742	647
LIVERPOOL { Pará.....	2051	1034	1482
{ Other sorts.....	984	1352	1524
Total, United Kingdom.....	3595	3128	3653
Total, June 1.....	3687	3502	3624
Total, May 1.....	3788	3597	3952
Total, April 1.....	3326	3522	3104
Total, March 1.....	3078	2989	1917
Total, February 1.....	2674	3129	1848
Total, January 1.....	2794	2901	1855

PRICES PAID DURING JUNE.

	1902.	1901.	1900.
Pará fine, hard ..	2/11½@2/11¾	3/8 @3/9	3/9½ @4/1
Do soft.....		3 8@3 8½	
Negroheads, scrappy.....	2/4 @2/4½	2/7½	2/10½@2/11½
Do Islands.....	1/11	2/1¾@2/2½	2/2 @2/3
Bolivian.....	3 0 @3/0½	No sales.	3 11 @4/1½

JULY 4.—There has been more animation in the market during a fortnight, and a fair business has resulted in Pará, at steady rates; fine hard cure spot 2s. 11½*d.*; old dry 3s.; fine soft lower, at 2s. 11¼*d.* and 2s. 11*d.* for near and distant; hard entrefine, 2s. 9¾*d.*; negroheads easier, scrappy at 2s. 3½*d.*, Cameté at 2s. ¼*d.* to 2s., and Island at 1s. 10½*d.* Peruvians

lower, with good business in fair to good ball at 2s. 3½*d.* to 2s. 4*d.*, and small sales of slab at 1s. 11*d.* Mollendo fine sold at 2s. 11¼*d.* and entrefine at 2s. 9¼*d.*

At to-day's auctions the moderate supplies met a fair demand, but with holders being firm, only a small quantity was disposed of. Madagascar clean dark sold at 1s. 9½*d.*; Lamu ball good, 2s. 2*d.*; Nyassaland good clean red and livery ball 2s. 6*d.*, to 2s. 6½*d.*, slightly heated at 2s. 5½*d.*, good clean pressed ball, 2s.; Assam good red slightly mixed, 2s. *Palata* dearer; fair Venezuelan block sold at 1s. 11½*d.*

JULY 11.—No auctions this week. The market is a little easier, though a fair trade has resulted, closing dull. Fine hard (including Bolivian), spot oldish 2s. 11½*d.*, forward 2s. 11¼*d.* to 2s. 11½*d.*. Fine soft, 2s. 11*d.* to 2s. 10¾*d.* afloat, 2s. 11*d.* distant delivery. Entreline cheaper and plentiful. Negrohead easy; poor scrappy sold at 2s. 3*d.*, a small lot very good 2s. 3¾*d.*, Cameté 1s. 11¼*d.*, Island 1s. 10½*d.* settle. A good business has been done in Peruvian at easier rates, fine ball at 2s. 4*d.*, and middling to fair at 2s. 3*d.* to 2s. 3½*d.* Slab sold at 1s. 11*d.* and fine at 2s. 11¼*d.* to 2s. 11*d.* Mollendo: Fine sold at 2s. 11¼*d.*, and negroheads at 2s. 2½*d.* Medium grades continue scarce and wanted.

JULY 18.—The market for Parás firmer, and a fair business done. Fine hard, fairly old import, sold at 2s. 11¼*d.* and two years old at 3s. ¼*d.*; entrefine 2s. 9*d.* @ 2s. 9¼*d.*; oldish Bolivian, 3s. Fine soft cure now landing sold at 2s. 10¾*d.*, and forward at 2s. 11*d.*, with entrefine 2s. 8½*d.* Negro-heads almost neglected; scrappy sold at 2s. 3½*d.*; Cametés forward at 2s. and Island at 1s. 10¼*d.* Mollendo: small sales of fine at 2s. 11½*d.* The small supplies of medium kinds in auction today mostly of undesirable quality, and scarcely anything sold. Pontianak steady; 163 cases offered and retired.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

July 3.—By the steamer *Bernard*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cacho.	Total
A. T. Morse & Co.	25,200	14,800	59,500	18,800=	118,300
Reimers & Co.	35,100	12,600	32,700	13,500=	93,900
New York Commercial Co. 19,600	2,100	17,900	48,300=		87,900
Boston Rubber Shoe Co.				32,400=	32,400
United States Rubber Co.				16,200=	16,200
William Wright & Co.			5,100	.....=	5,100
Goodyear Rubber Co.			1,900	.....=	1,900
G. Amsinck & Co.		1,400	.....	.....=	1,400
Total.....	79,900	30,900	117,100	129,200=	357,100

July 15.—By the *Basil*, from Manáos and Pará:

New York Commercial Co.	123,700	28,200	68,400	.... =	220,300
A. T. Morse & Co.	19,800	4,200	50,800	.....=	74,800
Reimers & Co.	27,800	7,100	24,500	5,500=	64,900
Ed. T. Reeks & Co.	1,000	300	200	17,400=	18,900
Boston Rubber Shoe Co.	.....	.....	.....	15,600=	15,600
United States Rubber Co.	3,900	1,400	.....	7,900=	13,200
William Wright & Co.	.....	.....	5,700	..... =	5,700
Goodyear Rubber Co.	.....	.....	5,600	.....=	5,600
G. Amsinck & Co.	1,300	.....	.....	.....=	1,300
Total	177,500	41,200	155,200	46,400=	420,300

July 25 —By the steamer *Fluminense*, from Manáos and Pará:

New York Commercial Co.,	48,600	23,000	103,100	9,300=	184,000
A. T. Morse & Co.	3,800	5,300	48,100	.....=	57,200
Reimers & Co.	16,800	8,600	12,000	.....=	37,400
Boston Rubber Shoe Co. .			22,700	40,300=	63,000
United States Rubber Co. .	1,600	200	1,600	19,000=	22,400
N.Y. and Java Trading Co.	1,000		1,000	2,000=	4,000
William Wright & Co.			2,500	.....=	2,500
G. Amsinck & Co.	400	100	100	.....=	600
Total.....	72,200	37,200	191,100	70,600=	71,100

[NOTE.—The Steamer *Dunstan* from Pará, is due at New York August 4, with 135 tons Rubber and 35 tons Cacho.]

PARA RUBBER VIA EUROPE.

	POUNDS.
JUNE 23.—By the <i>Umbria</i> =Liverpool:	
Ideal Rubber Co. (Fine)	4,500
JULY 7.—By the <i>Cuzco</i> =Mollendo:	
New York Commercial Co. (Fine)....	4,000
New York Commercial Co. (Coarse) ..	1,000 5,000
JULY 12.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co. (Fine)	11,500
Reimers & Co. (Fine)	11,500 22,700
JULY 16.—By the <i>Oceanic</i> =Liverpool:	
Reimers & Co. (Fine)	33,500
George A. Alden & Co. (Fine).....	60,000 93,500
JULY 21.—By the <i>Umbria</i> =Liverpool:	
Reimers & Co. (Fine)	29,000
George A. Alden & Co. (Fine).....	5,000 34,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.
JUNE 21.—By the <i>Byron</i> =Bahia:	
J. H. Rossbach & Bros.	12,300
Booth & Co.	6,000 18,300
JUNE 23.—By the <i>Pucatan</i> =Mexico:	
Graham, Hinckley & Co.	3,000
H. Marquardt & Co.	2,000
E. Steiger & Co.	2,000
L. N. Chemedin & Co.	1,000 8,000
JUNE 24.—By the <i>Allegheny</i> =Cartagena:	
American Trading Co.	2,000
Lawrence, Johnson & Co.	1,500
Roldan & Van Sickle.	1,000
G. Amsinck & Co.	200 4,700
JUNE 24.—By the <i>Orizaba</i> =Colon:	
Isaac Brandon & Bros.	9,300
Hirzel, Feltman & Co.	3,800
American Trading Co.	3,100
G. Amsinck & Co.	2,900
Dumarest & Co.	2,500
Lawrence Johnson & Co.	1,800
Silva, Bussellus & Co.	1,500
Frame, Alston & Co.	1,700
A. Santos & Co.	1,100
Eggers & Heinlein.	1,000
Kunhardt & Co.	700 29,400
JUNE 26.—By the <i>El Cid</i> =New Orleans:	
A. T. Morse & Co.	4,500
G. Amsinck & Co.	3,000
L. N. Chemedin & Co.	1,500
For Europe.	2,500
Manhattan Rubber Mfg. Co.	4,200 15,700
JUNE 28.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co.	2,200
JUNE 30.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.	2,000
Thebaud Brothers.	1,200
H. Marquardt & Co.	1,300
E. N. Tibbals & Co.	1,000 5,500
JULY 1.—By the <i>Alene</i> =Greytown:	
E. B. Strout.	2,000
G. Amsinck & Co.	1,700
H. A. De Lima & Co.	1,500 5,000
JULY 1.—By the <i>Advance</i> =Colon:	
Isaac Brandon & Bros.	2,700
G. Amsinck & Co.	2,000
Eggers & Heinlein.	1,100 5,800

CENTRALS—Continued.

JULY 3.—By the <i>El Dia</i> =New Orleans:	
A. T. Morse & Co.	3,000
M. G. de Leon.	600 3,600
JULY 7.—By the <i>Esperanza</i> =Mexico:	
Graham, Hinckley & Co.	3,000
JULY 7.—By the <i>Wordsworth</i> =Bahia:	
J. H. Rossbach & Bros.	37,500
JULY 7.—By the <i>Etruria</i> =Liverpool:	
Joseph Cantor.	5,500
Reimers & Co.	3,500 9,000
JULY 9.—By the <i>Alliance</i> =Colon:	
A. Santos & Co.	5,700
Hirzel, Feltman & Co.	5,600
Dumarest & Co.	1,600
Frame, Alston & Co.	1,500
G. Amsinck & Co.	800
Kunhardt & Co.	800
W. R. Grace & Co.	400
American Trading Co.	600 17,000
JULY 12.—By the <i>Vigilancia</i> =Mexico:	
E. Steiger & Co.	4,000
Thebaud Brothers.	1,500
H. Marquardt & Co.	500 6,000
JULY 14.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.	3,500
Manhattan Rubber Mfg. Co.	3,000
G. Amsinck & Co.	3,000
Eggers & Heinlein.	300
For Europe.	2,200 12,000
JULY 15.—By the <i>Financ</i> =Colon:	
Hirzel, Feltman & Co.	8,500
Isaac Brandon & Bros.	3,900
A. Santos & Co.	5,700
G. Amsinck & Co.	4,500
American Trading Co.	4,100
Dumarest & Co.	2,300
Harberger & Stack.	800
D. A. De Lima & Co.	700
Roldan & Van Sickle.	100 30,600
JULY 15.—By the <i>Athos</i> =Greytown:	
E. B. Strout.	4,000
G. Amsinck & Co.	2,500
Livingstone & Co.	2,000
A. D. Straus & Co.	400
Jimenez & Escobar.	300
United Fruit Co.	600
Lawrence Johnson & Co.	300 10,100
JULY 17.—By the <i>Grayfield</i> =Colon:	
G. Amsinck & Co.	3,700
W. Loazia & Co.	1,000
Bloom Brothers.	300 5,000
JULY 21.—By the <i>Altai</i> =Cartagena:	
D. A. De Lima & Co.	2,500
Kunhardt & Co.	2,000
Isaac Brandon & Bros.	1,000
Lawrence Johnson & Co.	3,500
C. Wessels & Co.	800 9,800
JULY 22.—By the <i>Tennison</i> =Bahia:	
J. H. Rossbach & Bros.	17,500
Eggers & Heinlein.	5,300 22,800
JULY 22.—By the <i>Orizaba</i> =Colon:	
G. Amsinck & Co.	5,000
Isaac Brandon & Bros.	4,700
Hirzel, Feltman & Co.	2,200
D. N. Carrington & Co.	1,800
Lawrence Johnson & Co.	1,200

CENTRALS—Continued.

Eggers & Heinlein.	800
Kunhardt & Co.	600
R. G. Barthold.	400 16,700
AFRICANS.	
JUNE 23.—By the <i>Umbria</i> =Liverpool:	
Reimers & Co.	23,000
George A. Alden & Co.	10,000
Otto Meyer (Boston)	7,000 40,000
JUNE 24.—By the <i>Panama</i> =Bordeaux:	
George A. Alden & Co.	11,000
JUNE 26.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co.	11,500
Otto Meyer (Boston)	2,500 14,000
JUNE 26.—By the <i>Graf Waldersee</i> =Hamburg:	
Reimers & Co.	24,000
A. T. Morse & Co.	22,500
George A. Alden & Co.	9,000 55,500
JUNE 28.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co.	16,000
JUNE 30.—By the <i>Zeeland</i> =Antwerp:	
Reimers & Co.	15,000
JULY 2.—By the <i>Pennsylvania</i> =Hamburg:	
Otto Meyer (Boston)	30,000
A. T. Morse & Co.	7,000
Reimers & Co.	4,500 41,500
JULY 7.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co.	25,000
JULY 7.—By the <i>Peninsula</i> =Lisbon:	
Reimers & Co.	45,000
A. T. Morse & Co.	27,000 72,000
JULY 8.—By the <i>Tauric</i> =Liverpool:	
A. T. Morse & Co.	58,000
Reimers & Co.	11,500
Joseph Cantor.	4,500 74,000
JULY 9.—By the <i>Moltke</i> =Hamburg:	
A. T. Morse & Co.	7,500
Otto Meyer (Boston)	3,000 10,500
JULY 12.—By the <i>Campania</i> =Liverpool:	
Robinson & Tallman.	27,000
Livesey & Co.	11,500
Ideal Rubber Co.	7,500
Reimers & Co.	12,500 58,500
JULY 15.—By the <i>Vaderland</i> =Antwerp:	
A. T. Morse & Co.	55,000
Joseph Cantor.	30,000
Reimers & Co.	10,000
William Wright & Co.	600 101,000
JULY 16.—By the <i>Oceanic</i> =Liverpool:	
Reimers & Co.	47,000
A. T. Morse & Co.	25,000
Joseph Cantor.	5,000 77,000
JULY 17.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.	9,000
Reimers & Co.	4,000 13,000
JULY 21.—By the <i>Umbria</i> =Liverpool:	
Otto Meyer (Boston)	9,000
Reimers & Co.	5,000 14,000
JULY 21.—By the <i>Boric</i> =Liverpool:	
George A. Alden & Co.	112,000
JULY 22.—By the <i>Kronland</i> =Antwerp:	
George A. Alden & Co.	180,000
A. T. Morse & Co.	27,000

EXPORTS OF INDIA-RUBBER FROM MANAOS—FIRST HALF OF 1902.

BY COURTESY OF WITT & CO. [WEIGHTS IN KILOGRAMS.]

EXPORTERS.	NEW YORK.					LIVERPOOL.					HAVRE AND HAMBURG.					GRAND TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Prusse, Dusendtschou & Co.	647,144	199,146	229,956	277,916	1,354,162	808,572	160,861	125,404	393,582	1,488,419	79,731	43,072	19,560	15,450	157,813	3,090,394
Witt & Co.	583,992	158,943	145,865	357,541	1,246,341	420,042	85,221	134,557	103,629	743,449	5,280	—	5,400	—	10,680	2,660,470
A. H. Alden.	620,070	166,106	211,791	186,099	1,184,066	64,160	14,120	4,080	92,130	177,490	25,536	15,840	—	16,500	57,876	1,419,432
Neale & Staats.	—	—	—	10,100	10,100	128,535	31,970	21,590	52,472	234,547	86,680	25,410	25,010	43,890	181,020	425,667
Andresen Snecs.	3,360	—	2,970	6,750	13,080	185,056	69,996	66,032	16,670	337,754	—	—	—	—	—	350,834
Actunes & Co.	14,568	8,601	3,847	18,780	45,796	184,280	40,530	31,310	39,210	295,330	—	—	—	—	—	341,126
Mello & Co.	50,150	7,820	6,720	—	64,690	115,430	29,580	13,680	—	158,690	—	—	—	—	—	223,380
Marius & Levy.	2,240	—	840	—	3,080	2,781	314	1,963	186	5,246	32,206	6,496	28,920	135,929	203,561	211,887
Brooklehurst & Co.	15,268	1,662	3,479	—	20,409	22,434	1,738	30,481	79,316	136,969	654	—	103	—	757	158,135
Kahn, Pollack & Co.	—	—	—	—	—	4,250	—	2,040	—	6,290	76,742	15,088	253	1,524	127,607	133,897
Reeks & Astlett.	11,620	2,223	4,432	106,591	124,866	—	—	—	—	—	—	—	—	—	—	124,866
Barros & Levy.	—	—	—	—	—	7,466	1,218	10,401	53,017	72,102	—	—	—	—	—	72,102
Schill & Sobrinho.	—	—	—	—	—	—	—	—	—	—	31,534	6,312	11,905	967	53,718	53,718
Freltas Fer. & Co.	—	—	—	—	—	24,960	4,800	4,770	13,356	47,880	—	—	—	—	—	47,880
Bdo Bockris & Co.	—	—	—	—	—	1,190	170	360	—	1,720	9,140	3,740	5,880	—	18,800	20,520
Sears Rubber Co.	11,713	2,885	3,538	196	18,332	—	—	—	—	—	—	—	—	—	—	18,332
Denis Cronan & Co.	—	—	—	—	—	—	—	—	—	—	4,550	1,530	1,320	—	7,100	7,100
Sundry Shippers.	52,629	14,037	12,724	13,884	93,274	60,285	8,080	11,202	2,670	82,237	27,040	13,830	6,520	8,712	56,102	231,613
Iquitos, Translt.	—	—	—	—	—	85,623	7,074	83,170	132,613	308,470	61,510	10,152	66,925	130,524	269,111	577,581
Total.	2,012,751	559,423	628,162	977,857	4,178,196	2,119,064	458,672	540,030	978,827	4,096,593	443,343	141,500	205,806	253,496	1,144,145	9,418,934

AFRICANS—Continued.		EAST INDIANS—Continued.		BALATA.	
Reimers & Co.	46,000	JULY 7.—By the <i>Gloosecap</i> =Singapore:		JUNE 30.—By the <i>Maracas</i> =Trinidad:	
Robinson & Tallman	8,000 261,000	Reimers & Co.	22,500	George A. Alden & Co.	3,500
JULY 22.—By the <i>Blucher</i> =Hamburg:		JULY 14.—By the <i>Minneapolis</i> =London:		G. Amsinck & Co.	500 4,000
Reimers & Co.	18,000	R. Brauss & Co.	17,000	JULY 12.—By the <i>Maravel</i> =Trinidad:	
Robinson & Tallman	17,000	GUTTA-PERCHA AND BALATA		George A. Alden & Co.	6,000
A. T. Morse & Co.	12,000	POUNDS		G. Amsinck & Co.	1,000 7,000
George A. Alden & Co.	13,500 60,500	JULY 26.—By the <i>Grat Waldersee</i> =Hamburg:		BOSTON ARRIVALS.	
EAST INDIAN.		To Order	5,500	POUNDS	
JUNE 23.—By the <i>Border Knight</i> =Calcutta:		JULY 7.—By the <i>Maristow</i> =Singapore:		JUNE 16.—By the <i>Devonian</i> =Liverpool:	
Reimers & Co.	2,900	R. Brauss & Co.	16,000	Otto Meyer & African	2,175
JULY 7.—By the <i>Maristow</i> =Singapore:		George A. Alden & Co.	1,000 17,000	JUNE 16.—By the <i>Southwark</i> =Liverpool:	
R. Brauss & Co.	22,500	JULY 9.—By the <i>Molthe</i> =Hamburg:		George A. Alden & Co.—African	55,166
PONTIANAK.		To Order	9,000	JUNE 23.—By the <i>Ircania</i> =Liverpool:	
JULY 7.—By the <i>Maristow</i> =Singapore:		JULY 12.—By the <i>Marillo</i> =Hull:		Reimers & Co.—African	17,500
R. Brauss & Co.	150,000	To Order	2,800	JULY 27.—By the <i>Philadelphina</i> =Liverpool:	
Reimers & Co.	335,000	JULY 22.—By the <i>Blucher</i> =Hamburg:		Kramisch & Co.—African	11,211
Robinson & Tallman	100,000	To Order	8,500	Total Imports	86,052
George A. Alden & Co.	112,000				
Littlejohn & Parsons	35,000 732,000				

JUNE EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CALCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.	4,080	1,020	27,773	—	32,873	83,728	10,948	21,740	—	116,416	149,289
Frank da Costa & Co.	3,472	5,130	77,044	150	85,796	96,782	7,476	33,812	—	138,070	223,866
Adelbert H. Alden	57,800	13,730	47,250	997	119,777	30,600	2,700	8,060	—	42,260	162,037
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	556	141	25	—	722	722
Kanthack & Co.	—	—	—	—	—	—	—	1,280	—	1,280	1,280
Neale & Staats	—	—	—	—	—	9,496	1,015	7,671	3,020	21,202	21,202
Denis Crouan & Co.	—	—	—	—	—	3,017	342	8,133	—	11,492	11,492
R. Suarez & Co.	—	—	—	—	—	34,720	12,446	7,771	—	54,937	54,937
Pires, Teixeira & Co.	—	—	—	—	—	5,987	332	1,555	—	7,884	7,884
Sundry small shippers	—	—	—	—	—	—	—	11,160	—	11,160	11,160
Direct from Iquitos	—	—	—	—	—	10,446	501	3,162	76,844	90,953	90,953
Direct from Manáos	131,899	32,151	40,024	120,176	330,250	72,832	16,588	22,490	157,919	269,829	600,079
Total for June	197,251	52,031	108,091	121,323	568,696	348,164	52,489	127,769	237,783	766,205	1,334,901
Total for July-May	6,833,124	1,709,950	4,023,685	1,087,415	13,654,174	8,748,841	1,674,504	2,534,768	1,987,928	14,946,039	28,600,213
TOTAL, CROP YEAR	7,030,375	1,761,981	4,221,776	1,208,738	14,222,870	9,097,005	1,726,993	2,662,537	2,225,711	15,712,244	29,935,114

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1902	4,505,487	341,857	4,163,630	May, 1902	3,889,536	2,819,936	1,069,600
January-April	19,789,635	1,232,134	18,557,501	January-April	19,686,688	10,074,960	9,611,728
Five months, 1902	24,295,122	1,573,991	22,721,131	Five months, 1902	23,576,224	12,894,896	10,681,328
Five months, 1901	28,805,634	1,327,443	27,478,191	Five months, 1901	22,632,176	12,602,912	10,029,264
Five months, 1900	20,959,932	1,934,721	20,959,932	Five months, 1900	27,330,240	14,225,680	13,104,560
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1902	3,054,700	1,424,060	1,630,640	May, 1902	146,960	51,440	95,920
January-April	9,933,220	3,278,220	6,655,000	January-April	515,020	42,400	472,560
Five months, 1902	12,987,920	4,702,280	8,285,640	Five months, 1902	661,480	93,500	568,480
Five months, 1901	10,606,860	2,774,200	7,832,660	Five months, 1901	711,920	92,840	629,080
Five months, 1900	12,850,860	4,070,440	8,780,420	Five months, 1900	708,620	—	—
FRANCE.							
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
May, 1902	1,437,260	803,000	634,260				
January-April	6,569,640	2,766,720	3,802,920				
Five months, 1902	8,006,900	3,569,720	4,437,180				
Five months, 1901	7,292,780	3,193,080	4,099,700				
Five months, 1900	6,668,200	2,430,340	4,237,860				

NOTE.—German statistics include Gutta percha Balata, old rubber, and substitutes. French and Italian figures include Gutta percha. The exports from the United States embrace the supplies for Canadian consumption.



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WHY WE ARE PROSPEROUS.

THE country is prosperous. It usually is, but just now the fact is exceptionally apparent. It is admitted without qualification in circles abroad where it has been usual for any statement favorable to business conditions in America to be credited to the Yankee tendency to boast. The London *Times*, for instance, prints a leader on the recent great increase in wealth of the United States, as indicated by the fact that the railroad property of the country is now mainly owned at home. But more important than the changed attitude of European sentiment in this regard is the testimony of recent American statistics from every accepted source—commercial or governmental. The census figures for 1900—made public this time with unprecedented promptness—compared with the returns for 1890, make an astonishing showing of increase in the agricultural population, in its wealth, and in the profits of farming. The growth of manufactures, too, has been marked, including the development of industries that are practically new to this country. There are to be considered, also, the returns of our foreign trade, of more recent date, upon which only one construction can be placed—that they record a prosperous condition.

On another page of this journal is roughly summarized a review of trade conditions appearing recently in *The Iron Age*, which may justly be described as making a remarkable showing. Without doubt an equally careful survey of any other branch of trade, taking the country as a whole, would fully corroborate the reports collected in the hardware branch. Every important railway system in the country has under way an amount of work for the betterment of its property that calls, in the aggregate, for a vast amount of material and labor. There are municipal improvements in progress everywhere that require immense expenditures. In New York alone an underground railway is being constructed, under a \$35,000,000 contract, besides costly bridges and public buildings. At the same time the rebuilding of the city goes on apace, that the same amount of land may accommodate a greater population, and with more comfort. All of which means a ready market for labor, at remunerative wages, and the consumption of quantities of material that not so long ago would have seemed fabulous.

The country ought to be prosperous. Any other condition would mean that the generations of industrious, intelligent, progressive, honest millions who have worked with brains and brawn, on lands owned by themselves, and under favorable and just laws, had worked in vain. Failure under such circumstances would prove discouraging to efforts toward progress, in every land and clime, for a long time to come. The prosperity of to-day, which compels the attention of the world, is but the aggregate success of thousands and millions of families who have worked long to attain it, and is no cause for wonder. Of course there will be other years when the picture will be less attractive. The farmers cannot hope for the largest crops every year; the demand for steel cannot increase always at the present rate; there must be periods when the foreign demand for food and

manufactured wares will be less than now. But the actual wealth of the country will not be less because some years the farms are less productive, or prices for products lower; or because the demand for labor is slackened.

There are, of course, dark spots even on the sun. There is a great strike in progress in one branch of the coal industry, with injurious effects upon many not directly engaged in this industry—a renewal of a fight that has often been waged in the same region and which may not be settled finally in our era. There are tinplate mills idle, because their combined capacity is too great for the demand. And there are regions where the crops have failed, as happens everywhere sometimes. The indebtedness abroad of this country is large, but with this difference from our foreign debts formerly: Then they represented the cost of our great utilities, which were under mortgage to secure the debts, whereas the borrowing done now is of money for current use in business, such as every manufacturer does from his local banker.

It is hardly necessary to add that the condition of the rubber industry is most satisfactory, since this is the branch of trade which, in the past, generally has been the last to feel the effect of general depression and the first to recover from it.

THE PITY OF IT.

IT is really too bad that Census Bulletin No. 190, on "The Utilization of Wastes and By-Products," by Henry G. Kittredge, should have attempted to deal with waste rubber, for what is said on this subject not only is wholly inadequate, but it is pitifully inaccurate. In the first paragraph he says: "One thing that formerly rendered rubber comparatively valueless was because of its being vulcanized. - - -" This, of course, is carelessness on the part of the writer. He means *old* rubber, or vulcanized waste, and should have said so. Continuing, in the same sentence, however, he sins grievously in saying "- - - which rendered it of little use for manufacture, due to the fact that it could not be *remelted* for mixing with new gum, because of the *sulphuric treatment* it had received."

Who in the whole rubber trade *melts* rubber, or who wants to melt it? What would one have but a soft tar like fluid if it was melted? And as once melted it will stay in that shape, sticky, fluid, black, intractable, unworkable, offensive, how on earth can any one—even the experts of the Census Bureau—*remelt* it? Further, the best part of the "sulphuric treatment" in rubber reclaiming is that it destroys cotton fiber and in no way affects the rubber. Does Mr. Kittredge imply that no more acid reclaiming is done? He says "this difficulty is now overcome, and old rubber is blended with new," etc. Which difficulty—vulcanizing, remelting, or the sulphuric treatment?

Rubber manufacturers and chemists, the world over, will of course laugh when they read the Kittredge essay on waste rubber, yet it is a pity that an industry so well known and so important as that of rubber reclaiming, that has millions of dollars invested in great factories, that in the United

States alone annually recovers from 50,000,000 to 60,000,000 pounds of rubber from waste, should be so dealt with. Particularly is this true when from a score of sources could have been obtained facts and figures and an accurate description of the principles involved in reclaiming. Then too, if the Census office has blundered so in this particular, how about its articles on other industries? Are the rubber manufacturers likely to respect them? Of course the harm is done—that is as far as the Census publication is concerned—but lies travel far and fast, and publications equally ignorant are copying verbatim the Kittredge blunders and spreading them broadcast.

RUBBER SHOES FOR THE INDIANS.

THE annual award of contracts for supplying rubber boots and shoes—and some other things—to the Indians yet dependent upon the United States government, leads the *New York Times*, in an editorial on "The Indian in Gum Shoes," to reflect upon the degeneracy of that "once proud and virile, if not altogether admirable, race." With the donning of waterproof shoes by the successors of Philip and Tecumseh, Minnehaha and Nokomis, goes "the last remnant of respect which the average American citizen can have for the North American Indian," and the end of any sentimental regard which may have existed for the picturesque aborigine exiled from the hunting grounds of his fathers.

The Red Man has, indeed, changed from his former estate—whether for better or for worse, or who is to blame for whatever of wrong may have been done, it is not for us here to consider. But he is to be congratulated upon his introduction to the rubber shoe. It betokens civilization, and no higher sentiment animated "our wise and pious ancestors" (to quote from the constitution of Massachusetts) than their desire to lift the benighted natives out of their savagery. It was duty in this respect that led good men and true to desert their homes beyond the seas and put themselves in exile in this land of hardships. But because the objects of their labor of love refused to see some things in the same light as the newcomers, the work of civilizing them was given up as a bad job, and the belief accepted that "the only good Indian is a dead Indian."

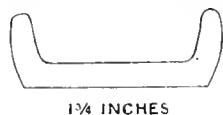
John Eliot's Indian Bible and catechism left small impress upon the lords of the forest and the chase. The would-be civilizers—was it because of being incensed at their failure?—thereupon drove the unregenerate natives beyond their sight and left them to go unrestrained to perdition. But that was before Goodyear and vulcanization and rubber overshoes. To-day there are North American Indians who till the soil and trade, and dress and eat and educate their children, after the manner of white men, having been helped to this stage of advancement by a different policy than was adopted toward them by the pioneer settlers, until they are beyond dependence upon the government's bounty. Such Indians as yet have to be treated as wards must be regarded as giving evidence of improvement when they begin to call for rubber boots and

shoes, with proper discrimination in styles and sizes and fit. These articles are conducive to health and comfort and cleanliness—without which there can be no civilization and the lack of which made impossible in life such Indians as exist in fiction. And shall the Indian be denied “rubbers” because the very idea destroys the illusion which made the “Indian novel” attractive?

There is here a practical consideration for the trade. If the native red man of North America is capable of such development as undoubtedly has been made by some of his race on the reservations in the West—the world hears less of it than of the former bloody uprisings that brought fame to General Miles—no race is hopeless as possible customers for rubber shoes, and the demand for such goods need not be confined to the present ranks of civilization. The whole world will yet wear rubbers, for the tendency in every land is to approach, even if slowly, the highest stage of development in any other. Meanwhile let the missionaries continue their work, but let them consider whether they will not be aided in it by carrying rubber shoes with them as a civilizing agency.

A STANDARD STEEL CHANNEL FOR TIRES.

HITHERTO there have been not less than ten different standards for steel channel used in applying solid rubber tires to vehicles. There has been no standard recognized



1 1/4 INCHES



2 INCHES



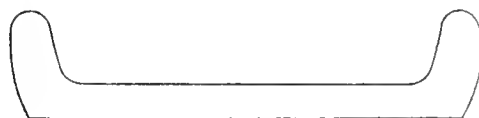
2 1/2 INCHES



3 INCHES



3 1/2 INCHES



4 INCHES

among rubber manufacturers, each one making his tires to fit the particular channel he used. As a large part of the rubber tire business consists in re-rubbing wheels already fitted with channel, it has very often happened that the rubber would not fit the channel perfectly. This necessitated taking off the channel, and putting on a new one, or, as was more often the case, putting the rubber on regardless of the fit, and thus making a defective job. As a result, a great many rubber tires have given

poor service for this reason alone, as it is absolutely essential to have a correct fit between the rubber tire and the steel channel.

To The B. F. Goodrich Co. (Akron) belongs the credit of starting the movement which has resulted in a universal Standard channel having been adopted by the manufacturers of solid rubber tires in the United States. The American Steel Hoop Co., of Pittsburgh, are now making a complete set of new rolls for producing Standard channel, which will be ready in a month, perhaps. The following tire manufacturers have agreed to adopt channel made in accordance with this Standard, and will furnish their tires to fit:

The B. F. Goodrich Co. (Akron, Ohio.)

The Consolidated Rubber Tire Co. (New York.)

The Goodyear Tire and Rubber Co. (Akron, Ohio.)

The Diamond Rubber Co. (Akron, Ohio.)

The Hartford Rubber Works Co. (Hartford, Conn.)

Morgan & Wright (Chicago, Ill.)

Calumet Tire and Rubber Co. (Chicago, Ill.)

The Victor Rubber Co. (Springfield, Ohio)

The Kokomo Rubber Co. (Kokomo, Ind.)

The Gutta Percha and Rubber Manufacturing Co. of Toronto, Ltd.

The India Rubber Co. (Akron, Ohio.)

The Pennsylvania Rubber Co. (Erie, Pa.)

The lasting benefit of this action will be apparent to all who have had anything to do with rubber tires. Dealers in carriage hardware everywhere can now carry steel channel with the assurance that it is adapted for all tires, regardless of the manufacturer. At present there are a great many tons of channel in stock that does not conform to the Standard adopted. Probably most of this will be sold as scrap, and the channel now fitted to wheels, which does not conform to Standard, will probably be changed when the wheels are re-tired, so that the trade may expect soon to see the Standard channel in universal use.

A RAILROAD PROJECTED FOR BOLIVIA.

A PAMPHLET entitled “Colonisation et Exploitations dans la République de Bolivie (Brussels: 1902)” is devoted to the projected railway from Potosi, Bolivia, through Santa Cruz to Bahia Negra, on the river Paraguay, at about 20° N. latitude, where the latter river forms the eastern boundary of Bolivia. The Paraguay, navigable to that point, discharges into the Parana, and that in turn into the Rio de la Plata, at the mouth of which is located the port of Buenos Ayres. For the encouragement of this enterprise a liberal concession has been granted by the Bolivian government to L'Africaine Banque d'Etudes et Enterprises Coloniales, of Brussels. The idea is that the profits of the proposed railway are to depend rather upon the development of the country than upon direct financial aid from the government. There are conceded to the company, however, extensive tracts of public lands, in alternate lots adjacent to the line of the road, certain grants being made in fee simple and certain other lands being subject to the payment of 1 franc for 10 hectares (=24.71 acres). The plans of the company involve the gratuitous cession of one-half of the lands acquired, for purposes of colonization, with the idea that the character of the climate, soil, and native products is such, when improved transportation facilities shall have been introduced, as will appeal strongly to immigration from Europe. The resources of the country to be traversed, particularly in the province of Santa Cruz, include important supplies of rubber. The total length of road proposed, including branches, is 850 kilometers (=527 miles).

THE MACKAY PACIFIC CABLE.

THE president of the United States on August 9 made formal announcement of the conditions which must be complied with before his consent will be given to any measure which may be brought before congress granting a concession to the Commercial Pacific Cable Co. to lay a cable across the Pacific. The company named had filed at Washington an application for the consent of the government to the laying of such a cable, proposing certain conditions, the acceptance of which would constitute a contract. In his answer to their application President Roosevelt has pointed out certain modifications which must be made in the terms proposed. The president's action, however, is not final, since the attitude of the government is that any agreement which may be reached with the cable company should be ratified by congress to give it full effect.

The memorandum approved by President Roosevelt consents to the laying of a cable from the Pacific coast of the United States to the Hawaiian islands, Midway islands, Guam, the Philippines, and some point on the coast of China; this concession to confer no monopoly as against any other company that might be formed in the United States to lay cables in the Pacific; the company not to combine or associate itself with any other cable company now existing, to regulate rates; the company's cables to touch only on American soil between the United States and China; the rates charged not to exceed those proposed by the company in a memorandum lately filed at Washington; * government dispatches to have priority over all others; the United States to have the right at any time to purchase the cable at an appraised value; the government of the United States to have authority to assume full control of the cable in time of war; all operators and other employes of the company, other than laborers, to be American citizens.

The Commercial Pacific Cable Co., in return for such concessions to the government as these terms involve, is to have the use of the soundings taken by the navy department between Honolulu and the Asiatic coast, by means of which it will be possible to lay the cable at least a year earlier than if the company had yet to take new soundings. Besides, the government will agree to obtain the consent of China to the landing of the cable on her shores—in spite of the fact that exclusive privileges are now enjoyed there by a British cable company—under the clause in the treaty between the United States and China which entitles the former to all the rights in the latter country of "the most favored nation."

As before stated in the INDIA RUBBER WORLD, the first section of the proposed cable—to connect San Francisco with Honolulu—has been made already, and a contract has been signed for the manufacture of the remaining sections, and the company had announced its intention of proceeding with the work whether its application for a concession was granted or not. It is probable that the terms approved by President Roosevelt will not be wholly satisfactory to the company; for example, the company had planned to use the cable already existing between Manila and Hongkong, whereas the government demands that the company shall construct and operate a line of its own between those points. But it is not anticipated that the company will refuse to accept the proposed con-

* The company promised that its rates should not exceed 50 cents per word between San Francisco and Honolulu at the beginning, this to be reduced to 35 cents within two years; and not to exceed \$1 per word between San Francisco and Manila and San Francisco and China; the government to be entitled to one half these rates. The existing rate to Manila is \$1.56 per word.

tract as a whole. By the way, the government is not showing any partiality to the Commercial Pacific company; although the question of a Pacific cable has been discussed for years, this is the first definite proposition that has come before the government for its action.

CABLE AND INSULATION NOTES.

A PIECE of submarine cable, $\frac{3}{4}$ mile in length, insulated with Hooper's rubber compound, from a line laid in 1881 for the Cuba Submarine Telegraph Co., was the subject recently of a test by Clark, Forde & Taylor, a London firm of consulting electrical engineers. They report: "Manufactured in 1873. Laid off Cienfuegos, Cuba, in 1881, under special arrangement for guarantee. Picked up in 1350 fathoms, April, 1902. Received at Hooper's works, Millwall Docks, June, 1902. Our tests of this core show that after thirty years it is still in perfect electrical condition. The examination of a foot specimen showed that the insulator was in good mechanical condition, and that the copper conductor had not suffered from the attacks of sulphur."

=In regard to the debenture issue of 21,000,000 marks required for the second German Atlantic cable, mentioned in the last INDIA RUBBER WORLD, it is reported that applications for considerably more than 300,000,000 marks were received.

=According to the *Electrical Review* (London), upon the completion of the British Pacific cable between Vancouver and Australia, the laying of a link cable to connect Fanning Island with Honolulu is contemplated. This will connect together the All-British and the Commercial Pacific cables, and will afford an alternative and inexpensive route to both.

INTERCEPTING WIRELESS TELEGRAMS.

[FROM THE "GUMMI-ZEITUNG," DRESDEN.]

RECENTLY we made the statement, based upon one in THE INDIA RUBBER WORLD, that the general introduction of wireless telegraphy was still a matter of conjecture, the danger of having telegrams intercepted prohibiting its universal use. A recent occurrence has created quite a commotion and is of vital importance to wireless telegraphy, and bears out the statement made. An American vessel, at a material distance, intercepted the telegraphic communication between the English steamers *Lucania* and *Campania*, and then placed the stenogram which it had taken, as a joke, at the disposal of both vessels. By this one of the most important prerequisites, the secrecy of telegraphic communication, is made very questionable. The statements indulged in when wireless telegraphy was first introduced, that any one could intercept them, received but little credence; but when the invention, to perfectly attune the sending and receiving apparatus, was made, it was asserted by some that it would be impossible to take telegrams for every other instrument. The two English vessels were equipped with the Marconi system. Whether the other systems will act differently, is a matter to be awaited.

RUBBER heels are reported to be in great vogue in the village of Spencer, Indiana, which is surrounded by hills. These heels are reported to be good for hill climbing. One cobbler there is mentioned as having saved in two years over 1000 paper boxes, which had come to him containing rubber heels and which he had emptied in supplying customers.

TO TEST TIRES.—It has been suggested that a valuable test of tires would be for cars to run at stated intervals over patches of loose, unrolled road material, and that the entered tires after the completion of the 3000 mile run should then be tested to actual destruction.

EVIDENCES OF GREAT PROSPERITY.

A NOTABLE summary of business conditions appears in *The Iron Age* (New York, July 31), in the shape of reports from 254 representative hardware merchants, scattered over all the states in the American Union. While these concise, business like letters are devoted primarily to the hardware trade, they relate incidentally to the leading industrial and business interests of their respective localities—agricultural, manufacturing, mining, or what not. Throughout the whole is apparent a vein of conservative expression, as befits the heads of houses many of which have long been engaged in business, and an absence of any enthusiasm engendered by "booms" or speculation. The letters have not been asked for with a view to promoting any particular sentiment, but in the ordinary work of *The Iron Age* in presenting occasionally a picture of the business situation, and as the names and locations of the merchants reporting are not printed, the latter have nothing to gain or lose by giving other than correct statements of conditions as they see them. There are reports of good trade in the last six months, and reports of bad trade, while the predictions for the second half of the year range from extreme optimism to extreme pessimism. But on the whole these letters reveal an amazing condition of prosperity.

"The demand for goods has been greater than in any previous year" (Delaware); "our business excelled anything we ever did before" (Ohio); "business has increased from 20 to 25 per cent." (Michigan); "this is our 104th year in business, and the spring trade was the largest we ever had" (Pennsylvania); "away beyond all expectations" (Iowa); "demand greater than in any former year" (California)—this is how the letters begin. Four out of five reports are in this encouraging vein, while the others mention strikes in mining regions, drought in farming sections, or some other local detriment to business which they believe will be of short duration.

It is from the agricultural states that the most enthusiastic reports come. More than half the letters refer to heavy crops, good prices, and prosperous farmers; less than 50 reports are of a different nature. "The financial condition of the farmers was never better" (Ohio); "our farmers are doing a great amount of building and making improvements of every kind" (Indiana); "farm lands have advanced from 25 to 50 per cent." (Michigan); "high prices for farm products are stimulating business" (Illinois); "farmers never had more money" (Wisconsin); "everybody who makes an effort seems to be prosperous" (Virginia); "this will be a banner year for the farmers" (Kansas); "the prospects for a good crop were never better" (Missouri); "the farmers are all out of debt and have money to loan" (Iowa); "the high prices of all stock have put farmers in better condition to buy, and for cash" (Washington); "condition of the farmer better than ever before" (Oregon); "the people have paid up many of the mortgages on their farms and are getting generally out of debt" (Maine); "our farmers never had more money" (New Jersey); "the farmers are enjoying prosperity" (Pennsylvania). Wherever these conditions prevail the farmers are buying goods freely and paying cash for them, building houses, and improving their farms. Where crop conditions have not been so good, it is mentioned that at least they are not going in debt. As a Kansas merchant reports: "One small crop will not affect our prosperity."

Collections are specifically referred to as good in 125 reports, and as poor in 50 reports, while favorable conditions may be inferred from most of the others. "Collections extra good" (Ohio); "better than usual" (Maine); "better than since 1892"

(Rhode Island); "collections good, except in some cases when customers seem to be letting their bills run behind to invest in stocks, trust companies, etc." (New Jersey); "collections have been unusually good" (Alabama); "collections are good and we are picking up some old scores on account of better times" (Oregon); "most of our customers pay cash; this is the best of all" (New Jersey).

Building operations are referred to very generally, since builders' hardware is so important an item of trade, and in this respect, too, the larger percentage of the reports is favorable, as relates both to city and country. Much building is reported throughout New York state. "We expect to have a busy fall on account of new buildings going up" (Pennsylvania); "more building in prospect than for several years" (Delaware); "building is far in excess of previous season" (Maryland); "demand for builders' hardware better than we have ever known" (Ohio); "more building going on and new enterprises started than usual" (Illinois); "unusual amount of building" (Virginia); "trade in builders' hardware exceptionally brisk" (Louisiana); "building operations are at high water mark" (Minnesota). Several reports state that building has been retarded by scarcity and high prices of material, and strikes of carpenters for higher wages, which fact of itself is regarded as an indication of prosperity. Labor nearly everywhere is reported to be fully employed.

These reports make but slight mention of rubber goods, or, for that matter, of most lines of stock carried by the hardware man, but they are referred to here as describing business conditions which are favorable to every branch of manufacturing for the retail trade. Good crops in most states, disposed of generally at good prices, not only benefit the farmers, but add to the prosperity of villages and cities, increase the wealth of the country, and enable every class to spend more money—and every class of buyers includes consumers of rubber goods.

SOME RUBBER LIKE COMPOUNDS.

ALMOST as long as the rubber business has existed there have been certain compounds in the line of plastics that have a physical resemblance to rubber and that are used where a certain amount of resilience is required. Indeed, in one or two instances they have been sold to rubber manufacturers as new and valuable substitutes for rubber. The basis of these compounds as a rule are glue and glycerine, both of which have an affinity for water which renders them useless in many lines where they would otherwise be valuable. One of these for printers' rollers (the Jackson compound) is made of 16 pounds glue, 16 pounds glycerine, 1 pound borax, 1 pound Japan. A variation of this compound is Borchardt and Bergman's composition for the manufacture of dolls' heads, hands, and feet. This is 5 pounds of glue, 10 pounds sugar, 2 1/2 pounds glycerine, 3 pounds Perry's white. It is quite similar to the composition of Doebrich: 1 pound glue, 1/4 pound glycerine, 1/2 pound sugar, 1 tablespoonful of flour, with a little albumen and coloring matter. None of the above uses appeal directly to the rubber trade, yet the glue and glycerine compound is quite largely used as a covering for gas tubing. It is a curious fact that gas easily penetrates the thickest sort of rubber tube, but if that tube be covered with the glue and glycerine compound it is practically impervious. The Barr compounds for gas tubing, are 10 pounds glue, 12 pounds glycerine, 4 ounces soap, 1 ounce borax, 3/4 ounce copperas. A later and simpler compound comprises 30 pounds glue, 30 pounds glycerine, 1 1/4 ounces bichromate of potash.

CRUDE RUBBER PRODUCTION AND PRICES.

THE annual circular issued from Liverpool by the importing firm of Hecht, Levis & Kahn embodies the results of a careful attempt to estimate the world's production and consumption of India-rubber, and also the total visible supply on July 1. The figures given, compared with those previously issued by the same firm are:

	1898-99.	1899-1900.	1900-01.	1901-02.
Total production.....tons	52,192	53,348	52,864	52,885
Total consumption.....	48,783	48,352	51,136	50,201
Visible supply, July 1.....	4,871	7,860	6,941	6,736

In many cases, of course, it is impossible, in such estimates, to calculate shrinkage between producing and consuming markets, and there are other elements of inaccuracy, but the above are offered as approximate amounts. Again, the "ton" is a variable quantity, in different countries, but accepting the metrical ton of 1000 kilograms as the standard, the estimate for the past twelve months would read:

Total production.....	116,590,271 pounds.
Total consumption.....	110,673,125 "
Visible supply, July 1.....	14,850,186 "

The Pará crop shows an increase of $8\frac{1}{2}$ per cent. over last year, whereas the increase in the preceding year was only $3\frac{1}{2}$ per cent. Besides, the recent increase was principally in Pará grades, while the increase in 1900-01 was almost wholly in Caucho. Messrs. Hecht, Levis & Kahn's comments on their statistical showing follow:

PARA KINDS.

CROP.—In spite of low prices and all forecasts to the contrary, the crop of 1901-02 shows an increase of $8\frac{1}{2}$ per cent. The receipts of Peruvian kinds amounted to 3575 tons, being an increase of only $1\frac{3}{4}$ per cent. on previous season, which yielded $31\frac{1}{2}$ per cent. over 1899-1900.

PROGRESS.—Shipments from Pará to America during the season were 14,057 tons, and to Europe 15,880 tons. While in 1900-01 America took 2700 tons more than Europe, in 1901-02 the shipments to Europe were 1800 tons in excess of those to America, which is accounted for by the collapse of a certain large concern in New York, whose unsold stocks of 1500 tons were thrown on the market.

VALUES.—After a final effort of the above mentioned firm, which advanced the price of Fine in August to 3s. 10d., values declined almost without interruption to 3s. $4\frac{1}{2}$ d. in January. The bulls, who in view of the financial crisis in Pará, confidently anticipated a shortage of 10 to 20 per cent. in the crop, lost heart when the arrivals in Pará during the first half of the season showed already a surplus of 2350 tons, and this well known New York concern, after striving hard during two years to drive up and maintain prices artificially, was obliged to stop payment. Pará, thus being deprived of one of its largest supporters, showed itself willing to meet buyers, and prices further declined until they touched 3s. at the end of February. At the beginning of March, on rumors of a sharp falling off in receipts, fresh speculators entered the market, and an advance of 2d. to 3d. took place, only however to be lost again in April, the season closing with hard cure Fine at 2s. $11\frac{1}{2}$ d., being the lowest level since 1894.

CONSUMPTION.—While the total deliveries in Europe have been 1400 tons in excess of previous season, those in the United States show a decrease of about 400 tons. This de-

crease is, however, more apparent than real, as the American stocks at the beginning of the season were fully 1000 tons more than declared, and consequently this quantity ought to be added to the 1901-02 deliveries. Thus also the visible supply of Pará kinds, instead of an apparent increase of 400 tons, would show an actual decrease of 600 tons, and as the Receipts were 2357 tons larger, the Deliveries during the twelve months under review have exceeded those of the previous year by about 3000 tons. On the other hand it will be noted that the deliveries of Mediums show a decrease of about 2000 tons, which indicates that the lower prices have enabled manufacturers to use Pará where previously they had employed other kinds, and for the same reason consumers have probably bought Pará beyond their requirements, so that part of the 3000 tons may still exist as an invisible supply.

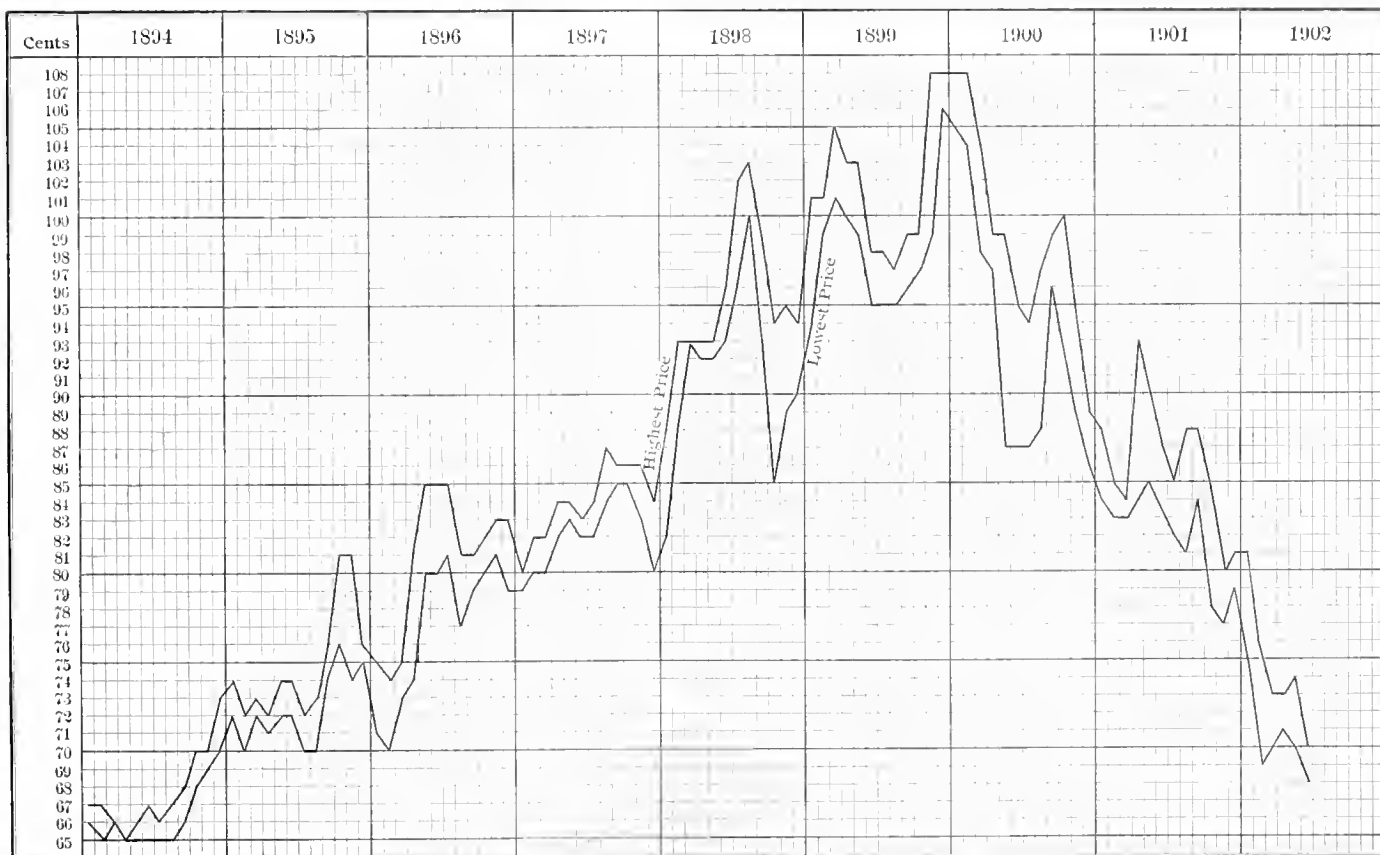
PROSPECTS.—It is reported that the new Pará crop will be an early one, but there are no indications that it will prove to be smaller than its predecessor. On the other hand, consumption does not promise to show any marked increase, and though it is not likely that prices will decline much below the present basis, the supplies seem to be sufficient to prevent, for the present, any permanent advance in values. All things considered, we are likely to see in the near future fairly steady markets at about 3s., with small fluctuations below and above.

MEDIUMS.

IMPORTS show a considerable falling off, and throughout the season the supply of the better grades has not been equal to the demand. This is chiefly attributable to unfavorable conditions at the producing centers. Moreover, there is no doubt that the decline in values has had a direct influence on the production of certain Medium descriptions. Antwerp is the only market where the season's arrivals have not been behind those of the previous year, and this may be due partly to the reserve stocks in the Congo stations and partly to the low cost of production in the Belgian Congo. The restrictions imposed by the authorities in the Sierra Leone districts have been effectual in greatly improving the quality of the rubber, which accounts for the comparatively high value it has commanded.

LIVERPOOL.—Direct imports show an increase of 210 tons in Brazilian kinds (comprising Ceará, Pernambuco, Mangabeira, and Maniçoba) and a decrease of 1080 tons Africans, mostly in Gold Coast and Ivory Coast descriptions. The indirect imports of Africans also show a decrease of 180 tons. Compared with last year, we have to record a shrinkage of 1050 tons in the imports and of 820 tons in the deliveries of all kinds of Mediums. To-day's stocks amount to 585 tons, largely consisting of low unsaleable sorts.

LONDON.—Arrivals have been reduced from 2598 tons in 1899-1900 and 1604 tons in 1900-01 to 956 tons this season. This decrease falls chiefly on East and West Indian sorts. Of Penang and Rangoon only 234 tons were imported, against 420 tons in the previous year. The decline in prices has brought out more buyers for these descriptions, and stocks are only 45 tons against 214 tons. Arrivals of Borneo were only 84 tons against 214 tons, and stocks consist chiefly of inferior kinds. The arrivals of West Indian sorts have suffered through revolutions and wars in the producing countries, and were only 166 tons against 385 tons last year. Fine qualities were in constant demand. From Mozambique 182 tons against 202 tons were imported, and fine qualities found ready buyers at ex-



THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE fact that the race for the Gordon-Bennett motor cup was won with English made tires is no doubt a triumph for home manufacturers, after having had the superiority of Michelin and Continental tires dinned into their ears for so long. We may hope now that the Dunlop company, the makers thereof, will be encouraged to fresh exertions in order to arrive at as near perfection as can reasonably be expected with such a body as rubber. There will shortly take place the special tire trials of the Automobile Club, and, to quote from the London society journal, *The World*, "the trials are being looked forward to as bringing into notice novelties and improved methods of overcoming the exasperating punctures which are so common." I am not too sanguine myself as to the puncture difficulty being easily overcome, but there is no doubt a very great interest being evinced in the matter by all classes of society, more especially since the King has become an enthusiastic motorist. Under the circumstances the question of cost for an unpuncturable tire will not prove a bar to its ready sale to a large extent. There is no doubt that the cab tire of the solid type is in increasing demand, and several rubber firms have lately added this branch to their business. The desideratum of the coach trade is a tough rubber, but of low density, and one or two of our rubber firms have been especially successful in supplying rubber of this quality. Slight porosity caused in the vulcanizing and a tendency to crack on the outside are two of the principal troubles which those who have gone into the manufacture in rather too light hearted a manner have had to contend with. It certainly is not an easy thing to turn out a cab tire possessing all the qualities demanded by the trade, and those who are thinking of going into the manufacture should make sure that they or their employes thoroughly understand the intricacies of detail, as many little defects in manufacture will cause a tire to be unsaleable, though not necessarily really defective. I hope in a short time to say something more fully with regard to some firms who have recently gone into the cab tire manufacture.

IN the recovery of rubber from railway brake hose the labor of pulling to pieces is a serious item, being generally carried out by hand. A recently patented process of Mr. R. R. Gubbins, of 95, Pelton road, Greenwich, London, however, does away with a large amount of labor, and indeed reduces the cost from £8 to 1s. 9d. per ton for bare wages. The process is an ingenious application of rolling mill methods, the machine being suitable for other purposes than that just mentioned. Judging from all appearances the competition between the various makers of reclaimed rubber is becoming more and more acute, though there is no doubt that the consumption is increasing. I was rather surprised to be informed by an erstwhile manufacturer of a brand of recovered rubber that the market for it had suddenly died out; I happened to know that that sort of rubber was being largely used, and I have no doubt that the business has simply changed hands owing to price considerations. There seems to be very little old rubber now to be picked up without competition; possessors of it have now all got a pretty good idea of its market value and are not easily to be caught by the wiles of those who make its collection and re-sale a matter of regular business. No doubt some of the makers of recovered rubbers

will now begin to writhe under the more onerous condition which modern competition imposes on them and will seriously consider whether the game with its attendant worries and risks is really worth the candle. There certainly is an increasing tendency among the rubber manufacturers to carry out their own reclaiming, or, if they cannot manage the whole process to advantage, to buy it partially treated from those who have collected such as contains wire and cloth and removed these extraneous bodies by economical processes of their own. With regard to the buying and selling of reclaimed rubber, there is an increasing desire of rubber manufacturers to have something in the nature of a certificate of quality with their purchases, and as a proximate analysis of the mineral matter, rubber, and oily or resinous matters does not cost much, the reclaimer will find it advisable to conform to the demand in this respect, though as he does not know how his product is to be used, I think he is wise in demurring against giving guarantees.

FROM time to time complaints arise as to the unsuitability of rubber for bottle rings, especially in connection with foods containing oily matters. The proprietors of a new food product told me the other day that they could not use rubber, at least not the sort of rubber they had tried, and they were rather at their wits end to know how to fill their acquirements. No doubt there is something in the quality of the rubber, and therefore some firms may be more successful than others in this department. All the same it can hardly be contended that rubber is suitable in the case of vegetable oils, and the subject therefore seems particularly one, the study of which might well be expected to yield satisfactory pecuniary results to any one tackling it in earnest. As regards the rings used in mineral water bottles, the objection to rubber does not hold, or at any rate not to anything like the same extent, and complaints have only been loud in cases where a very common brand of African rubber has been used in place of the Pará which should be considered obligatory for this purpose. Attempts have been made to deodorize the finished rings, but only very little success has ever been obtained by this procedure, and for reasons which it seems hardly necessary to enumerate.

THIS important cable firm, with which is now incorporated the Telegraph Manufacturing Co., of Helsby, was visited on July 10 by a party of the members of the Society of Chemical Industry, on the occasion of the annual meeting at Liverpool. Previous to inspecting the works, the visitors were entertained to a champagne luncheon by the directors—Mr. E. K. Muspratt, who took the chair, being supported by Mr. Atherton, Mr. James Taylor, Mr. Cresland Taylor, and Mr. Ferranti of high tension cable fame. The speech making was cut very brief, as time was short; and a vote of thanks proposed by Mr. Walter Reid, a vice president of the society, and responded to by the chairman, comprised all that was attempted in that direction. Perhaps this paragraph may hardly be considered suitable for insertion among these notes, as in these works rubber is conspicuous by its absence, but an excuse may be found in the interest which the rubber cable people take in their strongest competitor. From quite small beginnings the factory at Prescott has grown until it now covers an area of 15 acres and gives employment to over 2500 men, the rolling and

TIRE
MATTERS.BOTTLE
RINGS.RECLAIMED
RUBBER.THE BRITISH
INSULATED
WIRE CO.

drawing of the copper wire, the making of joint boxes, section pillars, being carried on in addition to the insulating of wires. The company introduced the system of twin lead-covered house wire cables and were the first manufacturers of low capacity air space telephone cables, as also of concentric and triple concentric cables on a commercial scale. Briefly described, the insulation is carried out as follows: The wires are covered with paper strip by machinery and then soaked in hot rosin oil, passing immediately from the oil tank to the lead press, where, at a pressure of 2240 pounds on the square inch, the metallic coating is put on. After the lead comes a further protective covering, either of iron wire or hemp, or both, according to the position which the cable will occupy in use. The finished cables are tested to 2500 volts for a working pressure of 500 volts, and to 10,000 volts in the case of high pressure mains to work at 3000 volts. I don't wish, however, to go into abstruse detail, and may bring this notice to a conclusion with the stereotyped remark that the visitors expressed themselves as much gratified with what they had seen. I may mention that the annual meeting of the Society of Chemical Industry is to be held in New York in 1904, a very cordial invitation from the New York section having been accepted by the general meeting at Liverpool.

THE editorial remarks in the June issue of THE INDIA RUBBER WORLD with regard to the shipments of "Pará rubber" from Ceylon strike me as very much to the point. It certainly does not do to take it for granted that a transported or transplanted tree will yield produce similar to that obtained from it in its natural habitat. Even if it does so it may prove to be a matter of time. If space permitted, a good deal might be said on the changes which have been noted both in animals and plants under the influence of foreign climes; but it will suffice to say that my own experience, limited though I must confess it has been, fully bears out what is said in the June issue as to the inferiority in tensile strength of the Eastern grown Pará rubber. Purity and cleanliness, important attributes though they be, are not everything which has deservedly come to be associated with the name of Pará rubber, and it is certainly good advice to suggest that the results of extended practical trial should be awaited before too sanguine a view is taken of the new product on the market. The samples of which I had special knowledge came from Mergui, in upper India, but their defects were identical with those attributed to the new Ceylon product.

I AM informed by Mr. W. F. Reid, the inventor of Velvrlil, that it is incorrect to suppose that the right of manufacture is solely vested in the Gandy Belt Co. This company has the right of use as far as its particular trade is concerned, but the general manufacture is still carried on near London by the Velvrlil Co., Limited, of which Mr. Reid is managing director.

IT cannot be said that any great spurt has been experienced lately in the proofing trade, the depression in which I referred to in my last letter. A great many machines are standing idle, though in the case of some firms this is evidence of falling off in the War office demand for ground sheets, rather than as a decline in macintosh business proper. There is no doubt that some firms have done very well in government orders during the period of the war, though of course they have known that it was merely a temporary era of prosperity, if one can use such a term in connection with a rather disastrous war. If, as a civilian, I may be allowed to offer a little criticism, I should suggest that the ground sheets served out to our volunteers in

camp might be renewed with advantage rather oftener, as in several cases I have noticed the rubber to be in a condition to which the name of waterproof no longer applies. It is quite possible that more to this effect will be heard when South African grievances come to be fully ventilated.

WHATEVER may be the future of rubber insulation for steel mains—and it is not possible to blind our eyes to the fact that its employment for this purpose has suffered a severe relapse—it will assuredly remain in general demand for switch board connections and for the feeders for tramway lines. In these cases the elasticity of the rubber cable is a very important point and in this respect the heavy lead covered cables cannot compete at all. As much as £400 worth of subsidiary cable for connections may be used in a system where the road cables proper are all of the fibrous or bitumen type.—The Liverpool Electric Wire Co. and the Anchor Cable Co. of Leigh, Lancashire, are the latest additions to the cable making industry.

THIS market seems to gain in favor amongst our manufacturers at the expense of Liverpool—that is, as far as African rubbers are concerned. The grading is carried out in a more systematic manner, and the bulk is delivered equal to sample. The regular British travelers employed are stated to be a greater convenience than is the Liverpool method of warehousing.

ONE of the firms making this a specialty is the Norton Folgate Rubber Co. named from the locality off Bishopsgate street, London, in which it is situated. Mr. Barnett Abrahams, the proprietor, has also a large business in cutting out and making up garments from proofed cloth. The solution is largely sold in collapsible tubes, which of the ordinary size of 3 inches by 1 inch sell at 2s. 9d. per dozen. It hardly needs to be said that the material is largely used by cyclists, though a good demand is experienced from the electrical industry.

MR. J. W. O. WALKER, who has been for some years manager at Messrs. George McLellan & Co.'s rubber works at Glasgow, has resigned that position and is, I understand, taking up a post with the Dunlop Rubber Co., at Birmingham. Mr. Walker was for some years head of a department at Messrs. Charles Macintosh & Co.'s works.—The Clarendon Rubber Co. is the title of a new rubber firm started at the Ragland street works, Hyde, near Manchester, under the management of Mr. Redfern.

RUBBER IN THE UPPER NILE REGION.

THE Earl of Cromer, British agent and consul in Egypt, in a recent report to the Foreign office, states that considerable quantities of rubber trees are reported in many of the districts of the province of Bahr-el-Ghazal. The director of woods and forests had been despatched to report on the possibilities of reopening the rubber trade of Bahr-el-Ghazal, which, prior to the uprising of the Mahdists, had begun to attain importance. It is known that the late General Gordon, who lost his life in that region, had the hope that a great commerce could be built up there, based primarily upon India-rubber, and the late Emin Pasha left in his notes references of interest to the same subject. It is also hoped, in the near future, to develop the rubber forests in southwestern Kordofan, which, from all accounts, are of great importance. Kordofan is an Egyptian province immediately west of Abyssinia, and in the same latitude as the German Kamerun, a rubber producing district on the west coast of Africa. Another article in this paper, by the way, relates to rubber in German Africa.

CABLE NOTES.

ANTWERP RUBBER MARKET.

RUBBER SOLUTION.

SHORT MENTION.

PARA RUBBER FROM THE EAST.

VELVRIL.

THE PROOFING TRADE.

THE BLOOMING OF RED RUBBER GOODS.*

IN the manufacture of red rubber goods it is particularly desirable, besides possessing the other qualities required in rubber products, that they shall be free from liability to "bloom." The blooming of rubber goods is most annoying to the manufacturer; it cannot be foreseen, but appears generally only after the goods have gone into consumption, and yet he has to suffer the consequences—inconvenient disputes with the customer and, usually, the return of the goods. No one desires red rubber goods with a whitish tinge, and in many instances they are entirely useless. It is natural, therefore, that rubber chemists should have devoted their energies to this subject, and various explanations as to the causes of blooming have appeared.

If we consider, in the first place, what this bloom consists of, we shall find that it is not produced exclusively by the sulphur of vulcanization, though this may be the cause in a majority of cases. In the bloomed out mass, which generally is crystalline, and often dusty and mealy, other substances besides sulphur are found, such as the carbonates of zinc, calcium, and magnesium, and also resins and oils, even if, as a rule, they exist in small percentages only. Of course the bloom does not appear on red rubber goods alone, but also on goods made of white and grey compounds. This defect on the last two named is not so apparent, and is objected to only when the appearance is too pronounced; while in black goods—it is immaterial whether carbons or lead compounds have been used—it is rarely found. The existence of antimonoxids in the bloom, as is often supposed, must be excluded, because they could be traced only to the golden sulphurets, which would produce a decomposition during vulcanization, causing the rubber to turn brown or black.

Pure sulphur bloom appears only on goods in which sulphur is used in connection with rubber which is free from resin; that is, the best grades of rubber. But in the use of inferior rubber, containing a considerable percentage of resins, generally small portions of these are segregated and sweated out in vulcanization. This is even more true of the solid greases which form part of some of the substitutes used in rubber mixtures. On giving close attention to the appearance of the bloom on rubber goods, we find that it returns persistently, even after having been removed with carbon disulphid or other solvents, or even after being ground off. If the latter process be resorted to, it must not be done too deep, because of the singular fact that rubber goods blooming on the exterior do not show that condition below the surface. When cut with a knife the cut surface will remain clean.

As already mentioned, the bloom caused by sulphur (and also paraffin) is crystalline in its composition; it looks exactly as if rubber had been treated to a coat of solution of sulphur in carbon disulphid and the latter had evaporated. The bloom, therefore, would appear to be nothing more than the segregation of sulphur from any solution—for instance, resin existing in rubber and made fluid by the heat of vulcanization. This theory virtually is admitted by those scientists whose explanation of blooming is that it is caused by faulty methods of vulcanization, by which the sulphur is set free.

This explanation would be plausible enough did it suffice for all the concurrent features. Not only is the segregation of sulphur wholly external, recurring repeatedly after removal, but it

is most prevalent in soft elastic rubbers—the best grades—decreasing proportionately with the inferiority and hardness of the rubber, which then contains a larger percentage of rubber and might easily be overloaded with it. Blooming never occurs in hard rubber (vulcanite). Further, rubber blooms only when exposed to the air, and not in water or other fluids, or in water containing superoxid of hydrogen, which certainly would cause blooming if oxidation played any part in it. It manifests itself alike under high and low temperatures; what degree enhances or retards it has not been established. The chemical actions and causes producing bloom are still a doubtful quantity, and the most that can be done is to take particular notice of all the various changes and thus try to overcome the objectionable feature.

The methods to this end vary in the case of different observers. Naturally vulcanization receives first attention, since in that process many have been led to believe that the key to the situation is to be found. We are convinced that the heating of rubber to a high temperature is the primary cause of blooming, but under what condition it occurs has not yet, in spite of the most minute observation and registering, been determined. It has been pointed out repeatedly in the technical press that correct proportions of sulphur and golden sulphuret would prevent blooming, but what the particular proportion is, or how it is to be ascertained and on what fundamental principle, remains to be stated. Every rubber expert, after having established to his own satisfaction a fixed theory to overcome this defect, suddenly discovers that his red rubber blooms, and he has to keep on experimenting.

Next, attention is given to the golden sulphuret, and its composition and influence on red rubber, and many experiments in practice and theory have been made in this connection. The easy decomposition of many brands of golden sulphuret has been thought to have an importance bearing upon the matter. It is pointed out that the sulphurets, treated with carbon disulphid, which was intended to dissolve the free sulphur only, often dissolve the chemically bound sulphur, and change into the compound Sb_2S_4 . This decomposition does not take place in all golden sulphurets, and by the use of an article free from this condition, blooming, so far as it may be attributed to the sulphurets, may be prevented. The golden sulphur of antimony is then tested by extraction by means of carbon disulphid in a reflux cooler, at which operation no more than about 4 or 5 per cent. of sulphur should be extracted. This naturally only refers to so-called chemically pure golden sulphurets. Sulphurets containing a larger proportion of free sulphur, will show an increased loss in weight, for which reason, in order to obtain accurate results, the antimony must also be considered.

The theory is often stated that the bloom on rubber consists partly of antimonoxid. This is impossible, for if antimonoxids are present in noticeable quantities, or should form during vulcanization, the partial or total decomposition into black antimontrisulphid would be inevitable; the color of the rubber would then become, instead of bright red, a red brown or brown to black.

It is possible for free sulphur to segregate in crystalline form, from oils and resins, as well as from gold sulphurets. Here also vulcanization is without any material influence, the amalgamation of these substances occurring at higher temper-

* Translated from the *Gummi-Zeitung* (Dresden).

atures then those of vulcanization. The fault lies then in the production of the oil substitutes, or is caused by the presence of resin in the crude rubber; the temperature of vulcanization is sufficient to dissolve the sulphur. Especially dangerous in this connection are the substitutes containing a high percentage of mineral oils and mineral greases, which in themselves do not compound with sulphur and always contain a large amount of physically free sulphur. Red (and other) rubber goods containing a large percentage of such substitutes bloom most readily, and it is hard to explain why the articles of French manufacture, which contain at least 40 per cent. of such mineral greases, are so much preferred. Besides sulphur, the solid mineral greases, paraffin and ceresin, segregate from them, and rubber goods, especially of Pará qualities, are often seen the bloom on which consists largely of paraffin. The other concurrent inorganic compounds are represented in the matter of blooming in a small degree, and are perhaps only accidental admixtures of sulphur which were taken up by it in the compound.

The measures, therefore, to prevent the blooming of rubber goods, and red rubber goods especially, would appear to be as follows:

1. The use of suitable gold sulphurets.
2. The greatest possible limitation of substitutes, and the avoiding of those having a high degree of mineral greases.
3. The storing of rubber in moist air.
4. The use of crude rubber free from resins.

To remove thoroughly the bloom where it has appeared, the only remedy is to grind off the surface slightly, which perhaps is possible only in few instances.

THE NEW GUTTA-PERCHA.

[FROM "THE ELECTRICAL REVIEW," LONDON, JULY 18.]

FOR the last 20 years or more innumerable efforts have been made to produce artificial Gutta-percha, but in the words of one who has perhaps had more to do with Gutta-percha substitutes than any other person, every attempt has been foredoomed to failure, and the reason is not far to seek. The chemical analysis of Gutta-percha shows it to be composed of about 60 per cent. of India-rubber* and 35 per cent. of resin and a small proportion of impurities. At first sight it would appear a comparatively simple matter to arrange to mix India-rubber and resin so that finally the proportions should be as above. An insurmountable difficulty, however, exists in the fact that at a comparatively low temperature, the resinous mass becomes fluid, so that long before a temperature is reached at which India-rubber could combine with resin, the latter has been reduced to a thin fluid, and the act of combination thereby rendered imperfect, if not impossible. In the result a Gutta-percha substitute is soft and readily takes the impression of the nail, and at a temperature little above normal becomes sticky. On being raised to the temperature of boiling water it soon becomes soft, but does not usually on cooling return to its original condition, and remains more or less sticky and plastic. About ten years ago a German chemist set to work to produce Gutta-percha synthetically, and after numberless experiments and most exhaustive testing of their results, he produced a material which is stated by several high scientific authorities to possess properties which in no case are inferior to those possessed by natural Gutta-percha, but that are in some directions even superior.

The new Gutta-percha has been under the observation of the

German postoffice officials for several years, and the manner in which this material has endured the tests to which it has been subjected—both in their official testing laboratory and also at the works of Messrs. Felten & Guilleaume—has justified them in commencing its adoption for the insulation of submarine and subaqueous wires and cables to be used on their telegraph and telephone systems.

These statements are confirmed in an official certificate issued by the imperial postoffice.

Reports upon this material made by Prof. Weber, of the Zurich Polytechnic, Mr. Ed. C. de Segundo, A. M. I. C. E., and other authorities set forth the following facts:

1. That the new Gutta-percha is fully equal to natural Gutta-percha, and, in fact, possesses some characteristics which render it even superior to natural Gutta-percha.
2. That it does not soften until a higher temperature is reached than in the case of natural Gutta-percha.
3. That its electrical resistance is somewhat higher than that of pure Gutta-percha.
4. That the inductive capacity is practically the same as that of natural Gutta-percha, perhaps a little less.
5. That all the ingredients used in its manufacture are readily obtainable in most countries, and that there is little likelihood of the prices of any of the ingredients tending to rise.
6. That no natural Gutta-percha whatsoever is used in the manufacture.
7. That the price at which it can be produced in this country in a quality equal to that of natural Gutta-percha for the insulation of submarine cables is less than one-half the present price of Gutta-percha.

We have examined samples of this material, and while, of course, we have not had an opportunity of subjecting it to the elaborate tests which would be necessary to enable us to express our own opinion upon such properties, for instance, as the inductive capacity, we can only say that as far as our observations go, it is very greatly in advance of any Gutta-percha substitute that has hitherto been placed upon the market. From the point of view of submarine telegraphy, the constancy of the electrical resistance and of the inductive capacity is, of course, a condition *sine quâ non* to the use of this material in the place of natural Gutta-percha. We are, however, assured that some submarine and subaqueous cables have already been made on the Continent, the cores of which are insulated with the new Gutta-percha, and that these cables have been in use for over a year, and have yielded results as regards both electrical resistance and inductive capacity that are absolutely satisfactory. Apart from the question of the use of this material for the insulation of submarine cores, the low price at which it can be produced, coupled with the excellence of its physical and electrical characteristics, should open up a wide field for its use in many industries, and we shall look forward with interest to its development in this country. The German and other European patents have already been acquired, and a company has been formed to deal with the British and Colonial patents. This company has been privately subscribed and no issue will be made to the public. We hope at an early date to have an opportunity of going further into this interesting invention and to be able to publish the results of various tests.

A RUBBER planting company desires to be informed, through THE INDIA RUBBER WORLD, where a supply of Pará rubber tree seeds may be obtained, with a view to making an experimental planting of the same in Oaxaca, Mexico.

*Our contemporary here singularly permits a slip of the pen in confounding gutta—a constituent of Gutta-percha—with India-rubber.—THE EDITOR.

AFFAIRS IN THE AMAZON RUBBER COMPANY.

THE situation in respect to the Bolivian concession of the Acre district to an American syndicate apparently remains unchanged. The matter was referred to by the Bolivian president in his message to Congress, on the opening of the session at La Paz, on August 10. He declared that the protests of Brazil were without basis, and that his government were in the right, and intimated that there was yet time enough for the organization of the projected company to give effect to the concession. A writer in the *London Morning Post* says that it is untrue, as reported from Washington, that Brazil has threatened to break off diplomatic relations with Bolivia, and equally untrue, as published in Washington, that Bolivia has promised to revoke the concession. He quotes facts to show that Brazil, in the past, has definitely acknowledged the Acre district to belong to Bolivia, and says, "it is difficult to think otherwise than that Brazil is wilfully and wantonly obstructing a useful enterprise projected by a friendly state." The absence in Europe of the gentlemen most intimately concerned in the affairs of the Bolivian Syndicate prevents THE INDIA RUBBER WORLD at this time from presenting any statement of the situation from their standpoint.

* * *

OUR Manáos correspondent writes: "The Acre business is getting very much mixed. The Amazonas state government took it upon itself to consider the Acre as Brazilian territory and levied an export duty on rubber shipped from there via Manáos. As the rubber gatherers had already paid 15 per cent. *ad valorem* to Bolivia, they thought it extremely hard to have to pay another 20 per cent. at Manáos, and they have protested. The federal government says nothing, but their custom house still permits foreign goods to go through to the Acre without paying duties to Brazil, and this country has not recalled its consul from Puerto Acre, so that the federal authorities evidently regard the Acre as belonging to Bolivia." Recently a state gunboat went in pursuit of a launch which had left Manáos for the Acre, said to be loaded with Mauser rifles for Bolivians, though no rifles were found. There were two federal gunboats at Manáos at the time, but they took no notice of the matter. — Later, the *Brasílian Review* reports the recall of the Brazilian consul at Puerto Acre (called also Puerto Alonzo.)

* * *

THE Amazon river cable between Pará and Manáos continues to work very unsatisfactorily. A Manáos correspondent of THE INDIA RUBBER WORLD mentions a recent interruption to communication which lasted from June 25 to July 10 with a consequent paralysis to trade. "Some of the merchants here," he writes, "think seriously of asking for government assistance to build a land telegraph line from Manáos to Georgetown (Demerara). If carried out, this plan would effectually solve the cable question, as land lines are not liable to the interminable interruptions which make the river line a delusion and a snare. Considering the high rate charged by the Amazon Telegraph Co. for messages—50 cents a word—there can be no doubt that a land line would pay its way, and it would be by no means a bad investment if some millionaire interested in rubber were to build it."

Writing in *The Electrical World* (New York), Charles S. Seibert says: "A cable ship, the *Viking*, of about 3000 tons, is

constantly moving up and down the river, with a trained corps of engineers aboard, proceeding instantly to the scene of a located or expected trouble; but in spite of this the cable is sometimes interrupted for twenty days at a time. The strong river current, the shifting bed, immense water logged tree trunks rolling along the bed of the river, and ships' anchors all combine to break the cable, and a land line through the impenetrable forest is a gigantic task. This, however, is being slowly constructed, and is put to good use when a break in the submarine line occurs, steam launches piecing out the parts of the route which the lines do not cover."

* * *

A REPORT from a South American source indicating that the state of Amazonas had succeeded in making a loan in New York appeared in the last issue of this paper. Evidently it was not well founded, since the governor of that state, on the convening of the present congress at Manáos, made further recommendations in regard to improving the public finances, and a bill was introduced for a thirty year loan of £1,500,000 for the redemption of the present currency debt and for taking over the electric lighting plant, street railway, and water works. A sinking fund is to be created by the deposit monthly of 10 per cent. of all duties collected, and matured coupons of the new bonds will be received in payment of dues to the state. It is reported that the government, displeased with the comments of one Manáos newspaper on the recent failure to negotiate a loan in New York, persuaded a creditor to proceed against its owners, and the press and types were sold at auction.

* * *

IN a recent report, the United States consul general at Rio de Janeiro, Mr. Eugene Seeger, refers to the unfavorable sanitary conditions of certain districts as a drawback to the opening up of a large and rich section of South America to the commerce of the world. The sanitary conditions of the Amazon throughout Brazil and of the Madeira up to the falls he describes as being about the same as those of the lower Mississippi in the United States during the summer season. The conditions in the highlands of Bolivia and Peru are very favorable. Continuing, Mr. Seeger reports:

"The unhealthy region of that territory is in the vicinity of the falls of the Madeira and Béni and on the lower Purús and Acre, where numerous basins exist which, during the rainy season, are filled with water. This water has no outlet, and, exposed to the rays of the tropical sun, soon becomes stagnant and breeds the microbes of malaria and *beriberi* and swarms of mosquitos, which introduce them into the human system.

"The mortality among the rubber cutters of this region is enormous; but it must be taken into consideration that the majority of these people come from the regions of Ceará and Maranhão, have very low vitality, are irregular in habits, profoundly ignorant, and too poor to fortify themselves against the climatic dangers to which they are exposed. Those who control labor on a large scale in the lowlands of Brazil and Bolivia could greatly reduce the mortality of their men by complying with the following requirements: To provide for a good commissary department, comprising, among other things, plenty of preserved vegetables, tea or yerba mate (Paraguayan tea); to furnish the men with good tents, mosquito bars, and protection of hands and head against mosquito bites; to let

nobody sleep lower than 30 feet from the ground; to provide water boilers and filters, and, in particularly exposed localities, to give the men quinine and tincture of arsenic; to permit the use of spirituous liquors only in exceptional cases; to have a good physician along and enforce the strictest discipline. If these hygienic measures were observed in the rubber camps, on board of the river steamers, and during the construction of railroads and canals in swampy regions of the tropics, many lives could annually be saved.

"The foregoing, however, was not written to recommend the exploration of the tropical swamps of Brazil or Bolivia, but to call attention to the facility with which the great and rich territories of eastern Bolivia and eastern Peru can be opened up to the commerce of the world."

* * *

OUR correspondent at Manáos reports that the state government has leased the *trapiche 15 de Novembro*—a pier where ships are loaded and unloaded, and the only one from which dutiable goods (including crude rubber) may be shipped—for sixty years, to a syndicate who propose to make certain harbor improvements. This is the arrangement referred to by the consul at Pará, in a report quoted in this issue.

* * *

The thirtieth annual meeting of shareholders of the Amazon Steam Navigation Co., Limited, was to be held in London on June 16, at which time the accounts for the year ending December 31, 1901, were to be presented with a recommendation by the directors that the earnings justified a dividend of 3 per cent. in addition to 2 per cent. already paid, making 5 per cent. for the year. The dividend last year was only 4 per cent.

* * *

THE INDIA RUBBER WORLD has particulars with regard to India-rubber lands for sale in Peru, situated on the rivers Tapiche and Blanco, which unite and flow into the Ucayali, the lands being within two days steam of Iquitos. About 500 *estradas* have been opened up along the rivers. The owners are prepared to give title to 52,370 hectares [=129,406 acres] of land. The presence of rubber in the district referred to long has been known, in a way, but its remoteness tended to discourage investments there. Now, however, that better transportation facilities exist, much development may be expected soon in Peru.

A NEW SCHOOL OF LITERATURE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: An unforeseen benefit which has resulted from the establishment of rubber plantations in Mexico doubtless to some minds would justify these undertakings, even in the event of failure to realize anything on rubber. Meaning the minds of several gentlemen, who, chosen to visit the plantations in a representative capacity, have returned home to find themselves transformed into authors. Their little books of travel are complete guides to those who would visit Mexico later, dotted with amusing incidents, and embellished with descriptions of forest and stream, flowers and birds and sunshine—until the reader, looking for information about his rubber trees, is charmed into forgetfulness of everything but the literary charm of the "inspectors' report."

It must be in the climate. Which suggests that some home-stayers who are striving in vain to get into print might become even *litterateurs* through a course of rubber plantation inspection. As for the man with money invested in planting who wants to know how his rubber trees are growing—well, a trip to Mexico doesn't cost much nowadays.

C. ELASTICA,

July 19, 1902.

RUBBER YIELD OF GERMAN AFRICA.

THE official reports on the German colonies in Africa devote special attention to the development of their India-rubber resources, though the results in this direction have not yet proved so successful as was at one time anticipated. For one reason, as a recent report on Kamerun expresses it: "In consequence of the falling off of the supply of rubber and ivory in those parts of the country from which they have hitherto been obtained, it is only by the opening up of fresh districts that the trade can be kept up to its present standard." Still rubber and ivory continue to furnish the larger part of the exports from Kamerun, Togo, and German East Africa, and now and then, for a while, an increased yield is obtained. Meanwhile the government is seeking to encourage the forming of rubber plantations, as well as to discourage the destruction of native rubber plants. According to a British report on recent trade in these German colonies, the value of the rubber exports was as follows:

Kamerun—£94,893 in 1899-1900; £102,926 in 1900-1901—the increase being due to higher prices realized.

Togo—£18,304 in 1899-1900; £26,068 in 1900-1901—more rubber having been gathered.

East Africa—£66,859 in 1899; £52,933 in 1900—exports having declined in volume.

From various sources the following statement has been compiled for THE INDIA RUBBER WORLD of the outturn of rubber from the colonies named, during the past ten years, though a few blanks remain to be filled:

KAMERUN.			EAST AFRICA.		
YEARS.	Pounds.	Value (Marks).	YEARS.	Pounds.	Value.
1891-92...	710,600	1,024,000	1891.....	521,000	\$240,000
1892-93...	910,800	1,427,000	1892.....	686,000	282,000
1893-94...	880,000	1,304,000	1893.....	500,000	233,000
1894-95...	752,660		1894.....	415,000	247,000
1895-96...	707,340	1,090,728	1895.....		321,000
1896-97...	670,721	829,559	1896.....		
1897-98...	969,738	1,177,715	1897.....	619,264 rup.	851,298
1898-99...	1,328,536	1,928,080	1898.....	418,636 "	702,978
1899-00...	1,163,025	1,930,264	1899.....	599,740 "	951,947
1900-01...	1,233,400	2,095,665	1900 (6 mos.)	181,636 "	324,686

TOGOLAND.

YEARS.	Pounds.	YEARS.	Pounds.	YEARS.	Pounds.
1892.....	81,400	1895-96...	204,168	1898-99.....	389,530
1893.....	63,800	1896-97.....		1899-1900...	217,560
1894.....	68,200	1897-98.....	194,918	1900-01.....	140,116

From these figures it would appear that the average production of India-rubber in German Africa during the five years covered by the latest available statistics has been 1,757,414 pounds.

The imports of crude rubber into Germany from her African colonies, during five years past, have been:

YEARS.	Togo & Kamerun.	East Africa.	Total.
1897....	744,700	167,200	911,900
1898.....	698,280	70,180	768,460
1899.....	1,111,800	140,800	1,252,600
1900.....	902,000	100,980	1,002,980
1901.....	847,800	120,340	968,140

The yearly average deduced from this table is 980,816 pounds, indicating that the mother country fails to profit from the handling of an important share of the rubber produced in her colonies.—During the same five years Great Britain imported rubber direct from Togo and Kamerun as follows:

	1897.	1898.	1899.	1900.	1901.
Pounds.....	152,203	177,632	156,688	146,944	147,728

In addition to the various native rubber species in German Africa, several imported species promise good results, and the experiments made in planting, under expert scientific supervision, seem likely to be of benefit to the cause of rubber culture generally.

THE ENGLISH MACINTOSH.

THE macintosh without the *k* is an English invention pure and simple, and has not only had a marvelous growth in Great Britain, but that country is headquarters of the world for that trade as far as output goes. This is not altogether due to the prejudice of the Briton in favor of this garment, but is in part accounted for by a climate which, more than any other, demands such wearing apparel. It is interesting to know that the first patent for waterproofing on wearing apparel was granted to an Englishman, John Jasper Wolfen, as far back as 1627. The patent specification in part reads as follows:

"To vse or excise, practize or putt in vse," "a newe invencon for the making and pparing of ctaine stuff to hould out wett and rayne;" and to "make, frame, sett vpp, or vse all such engynes, instrumentes, and deuises" as the patentee shall have found out or discovered, "to pposes aforesaide," on payment of the "yerely rente of five poundes of lawfull money of Englande."

The inventor did not contemplate the use of India-rubber as far as we know, but among the "engynes," "instrumentes," and "deuises" who can say that there may not have been spreaders, doubling machines, and even heaters? We do know, however, that in 1791 Samuel Peal was granted a patent for the use of India-rubber dissolved in spirits of turpentine for waterproofing purposes, and in 1823 Charles Macintosh made a further advance in proofing fabrics with India-rubber dissolved in coal oil. He also patented a doubling machine at that time, and erected a dry beater, perhaps the first that was used in the rubber business. Later, when Thomas Hancock discovered that sulphur added to rubber and subjected to heat brought about a "change," the macintosh garment really had its birth. The early product was very unsightly and heavy, due partly to the machinery used, to the fabrics em-

ployed, and to the extremely heavy coatings of rubber, but when the "English spreader" was perfected, proofing for the trade became general, and tailor-made garments were produced, very handsome effects were reached. In connection with the macintosh it is interesting to know that the "electric finished" gossamer had its birth in England, and a great variety of designs in farina printed upon rubber were the result. The gossamer, to be sure, did not have the run in Great Britain that it did in the United States, the printed designs as a rule appearing on the linings of single textures.

Another specialty of English parentage was the vapor cure for double texture which was, for some reason, due either to the skill of the manufacturers or to their climate, very successful in England, but in the United States a general failure, resulting in loss to many large houses. So disastrous was it, indeed, that almost every manufacturer in the States discontinued the process and took pains to advertise that their goods were all steam cured. It would hardly be giving a fair look at the British waterproofing trade if one did not call attention to the rain-proof goods known as Cravenette, that had their birthplace in Bradford, England, and from there have gone out all over the world. They have not taken the place of the macintosh, but have created a place of their own, and without doubt have come to stay. The illustrations accompanying this article show typical styles of English garments of the present day. They are, of course, only four out of many types of products of several large houses.

In what is known as the "scientific war on mosquitoes" the use of rubber goods has proved itself a necessity. For example, the department of public health of the borough of Queens, Long Island, after condemning some 2000 small ponds, were obliged to equip their men with rubber hip boots and lengths of rubber hose before they could cover the water with a film of crude oil, which kills the larvæ of the mosquito.

THE production of rubber [says the *New York Journal of Commerce*], is scattered over so wide an area that its control would be much more difficult than that of petroleum or anthracite; it would more nearly resemble the control of refined sugar production. Here only partial success has attended the efforts to put the production under a single control.



"ALEXANDRA" COAT.
[Ferguson, Shiers & Co., Manchester.]



MOTOR COAT.
[Abbott, Anderson & Abbott, London.]



OFFICERS' REGULATION COAT.
[Leyland and Birmingham Rubber Co., Limited.]

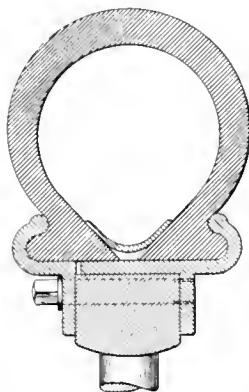


"MABEL" COAT.
[P. Frankenstein & Sons, Manchester.]

NEW GOODS AND SPECIALTIES IN RUBBER.

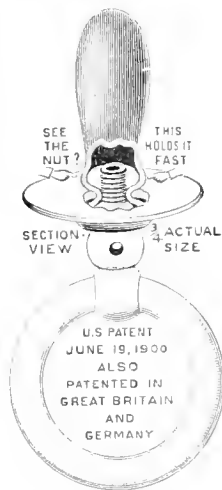
IMPROVEMENT IN "CLINCHER" TIRES.

THE object of the recently patented improvement in "clinch" tires illustrated herewith is to provide a means for firmly and securely holding such tires to the wheel rims continuously throughout their lengths. The tire is of the ordinary clincher form, open at the bottom or inner portion and having the usual bead like ribs at the sides. The wheel rim is channeled, and formed to fit over and closely embrace the inner portion of the tire, the curved over edges extending up over said ribs. The main portion of the steel channel is stationary, while the other side is detachable, and held in place by bolts or screws. By taking out the bolts the tire may easily and quickly be removed for purposes of repair or renewal. Within the edges of the tire, bearing upon the inner surfaces of its smaller side and between the ribs, is a band of metal which serves as a support for the portions of the tire which lie within the rim channel. Hence, as the detachable part of the rim is driven inwardly, the result is to clamp the tire firmly between the rim and said band. Thus the tire is held by a strong mechanical clamp, and does not depend for adhesion to the rim upon either elasticity or friction due to inflation of the tire. The patent, issued to George A. Weidely, is assigned to the G & J Tire Co., Indianapolis, Indiana.



THE "ANTI-CHOKE" COMFORTER.

THE illustration herewith gives an insight into the method of construction of the "Anti-Choke" baby comforter. One advantage which it possesses is the impossibility of its being pulled apart, thus avoiding the liability of the rubber part choking the child, as might happen with some other "comforters." The cut shown is $\frac{3}{4}$ the actual size of the article, which is made of good materials and put up on attractive cards of one dozen, to retail at 10 cents each. [William L. Strauss & Co., No. 27 Warren street, New York.]



THE "LENOX" ICE BAG.

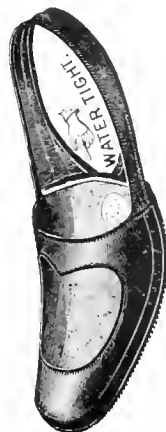
THIS is a new patented article which has been placed on the market recently by a firm who make a specialty of producing improved articles for use in the sick room and hospital. The strong points of this improved ice bag are: First, it has two perforated lugs, as shown in the cut, by means of which it may readily be secured to the patient; second, it is provided with a handsome aluminum screw cap; third, it has no creases or folds, as have most of the ice bags heretofore in use, thereby making it



more durable and more sanitary. It is a handsome, light, and desirable ice bag, and it is stated that it has been adopted by some of the largest hospitals, which shows that it has merit. The largest sale, of course, is secured through the druggists. An unusually broad and protective patent on this article has been granted to Meinecke & Co. (Nos. 48-50 Park place, New York), who protect all their patents through the Patent Title and Guarantee Co. Although the patent claims as allowed are brief, they are clear and fully cover the lugs, regardless of their shape.

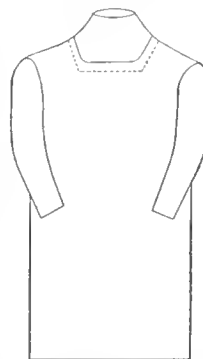
BAILEY'S FOOTHOLD.

THIS cut relates to a "foothold" of special design which is covered by one of the sixty or more patents for rubber novelties that have been granted to C. J. Bailey, the Boston rubber man. Somebody has said: "The woman who wears French heels can't get an ordinary rubber to fit 'em. She has to wear footholds and make the best of them." This seems to have given Mr. Bailey an idea. The result is that he has brought out a foothold with a rubber tube in the shank which makes an air tight waterproof dam against anything in the shape of moisture. [C. J. Bailey & Co., No. 22 Boylston street, Boston, Massachusetts].



A NEW WATERPROOF COAT.

THE drawing herewith illustrates a new design in waterproof coats for which a United States patent has been issued to Gustave and Albert Ström, of Paris, France. The object of the invention is a waterproof coat having a large, thin, and flexible collar of India-rubber intended to be enlarged by the hands and passed over the head to fit closely to the shape of the neck, while the coat itself has no opening on the forepart and is passed over the head at the same time as the flexible collar. Such coats are intended particularly for persons whose occupations require them to remain for hours in the rain—sailors, military officers, sportsmen, postmen, grooms, coachmen, chauffeurs, and the like. The drawing represents a front view of the coat, which consists of two parts—the main garment and the elastic collar.



THE NEW "REFORM" COMB.

COARSE toothed hard rubber combs with the so-called "molded" teeth have been on the market for some time, but the process has now been applied to fine teeth as well, and the illustration relates to a comb of this style. Teeth constructed

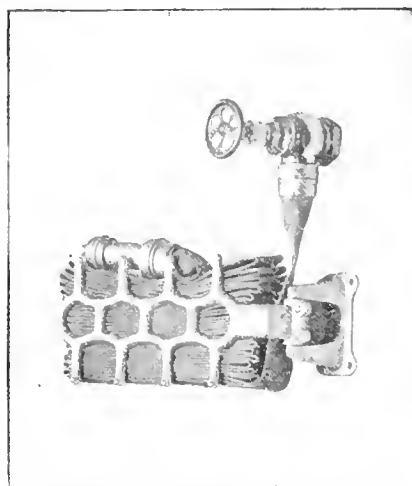


in the pyramid form make them stronger at the base, where the greatest strain comes, thereby rendering the comb more durable. This form is not given to the teeth, in fact, by molding, but by grooving the spaces, which does away with the

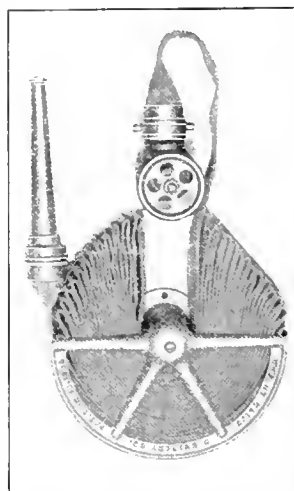
sharp edges appearing at the base between the teeth in the old style comb. Every tooth being carefully rounded, there are no sharp edges either on the teeth or at the base to cut or break the hair; besides, the comb is more easily cleaned. This comb is called the "Reform," which name has been registered as a trade mark, and is made in the newest and most attractive patterns. [Harburg Rubber Co.—Schrader & Ehlers, agents, No. 335 Broadway, New York.]

TWO NEW FIRE HOSE RACKS.

IN the first of the two illustrations shown under this heading a view is given of a swinging hose rack, for interior fire protection equipment, which has several advantages worth mentioning. In the first place, it is so constructed that there is no support under the points of folding the hose. The result is to prolong the durability of the hose. It has fewer and stronger parts than other hose racks; it is ornamental in appearance, has great sustaining strength, and occupies a minimum of space. This swinging hose rack is made in twelve sizes, the smallest being



SWINGING HOSE RACK.
Showing Rack Attached to Wall.



SADDLE RACK.
Showing Rack Attached to Wall.

designed to hold 25 feet of $1\frac{1}{2}$ inch unlined linen hose, and the largest 100 feet of $2\frac{1}{2}$ inch hose. These racks are finished with aluminum or any color enamel.—The second cut represents a saddle rack in the position which it takes when attached to a wall. These racks are made in various sizes with capacity for holding, in reasonable length folds, any quantity of unlined linen hose not exceeding 200 feet. The hubs for these racks are made in three widths adapted respectively for $1\frac{1}{2}$, 2, or $2\frac{1}{2}$ inch hose. Both these styles are sold by the Eureka Fire Hose Co., No. 13 Barclay street, New York.

PLANTING MONEY INSTEAD OF RUBBER.

INVESTORS in the "get-rich-quick" Pacific Rubber Co. have ceased to get circulars relative to its affairs from the United Securities Co., No. 66 Broadway, New York. Instead, they have been hearing from George T. Hart & Co., "investment bankers," of New Haven, Connecticut, who state that they have been appointed "fiscal agents," and that there is a "movement to consolidate the Pacific Rubber Co., under a new plan to be proposed by us." But dividends do not come from Hart & Co. any more freely than they have from the Broadway concern since March 5 last. A purchaser of these rubber planting shares who called at Hart & Co.'s office was told: "No law can make us pay dividends if we don't want to," and that is probably the end of the matter. Under date

of July 23 Hart & Co. wrote to the stockholders inviting them to send in their shares, as they "have parties that would be interested in buying it," but some of the stockholders, at least, are unwilling to surrender their certificates without a more definite consideration.

THE INDIA RUBBER WORLD has received several communications from stockholders—one list contained the names of eleven persons who had invested \$1975—asking what steps can be taken to recover their money. If they could gather in a body and find the men who have the money in possession, they might take it away by means of physical force; there is no other means that can be suggested just now. The "Pacific Rubber Co." crowd doubtless have been planting this money beyond the reach of legal proceedings, instead of planting rubber in Mexico.

NEW TRADE PUBLICATIONS.

THE EUREKA FIRE HOSE CO. (New York) have issued a new catalogue, describing in detail the characteristics of their various brands of circular seamless woven multiple fire and mill hose, of which fifteen are illustrated by "half tone" views which give a satisfactory idea of the construction and appearance of the goods. Specifications are given in each case, together with prices. Several brands of garden hose and of marline jacketed air drill and other hose are also described and illustrated. The list concludes with hose racks, hose reels, nozzles, and other like appliances. [$5\frac{1}{4} \times 6\frac{3}{4}$ 32 pages.]—An accompanying pamphlet is devoted to a historical sketch of the Eureka Fire Hose Co. and of the development of their special processes of hose weaving, with views from photographs of the interiors of the various departments of their factory. It contains also illustrations showing the details of construction of the different brands of hose. [$5\frac{1}{4} \times 6\frac{3}{4}$ 61 pages.]—Both these pamphlets have been printed with exceptionally good taste, rendering them attractive in appearance as well as interesting as reading matter.

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio) issue an illustrated pamphlet [$4 \times 7\frac{1}{2}$ 16 pages] describing their "side wire" solid rubber tires for vehicles and automobiles, and a folder giving prices. The distinctive feature of this tire is a series of cross bars every $\frac{3}{4}$ inch of its length, vulcanized in the rubber, which serve to retain the tire in place, with the aid of wires at the outer edges of the channel, resting upon the shoulder formed by these wires. The company write: "You will find the claims in our catalogue very broad, but the tire in service has proven all that we claim for it, and our trade is increasing very fast. This is especially true on heavy carriages or automobiles, where the strain is more severe on the defective construction."

INTERNATIONAL A & V TIRE CO. (New York) issue a new edition of their catalogue of Pneumatic, Solid Rubber, and Cushion Tires, for vehicles of every class. They are now making wired-on solid vehicle tires, in addition to the lines formerly produced by them. The catalogue contains a view of the factory at Milltown, New Jersey, in which their work has now become concentrated. [$3\frac{1}{4} \times 6\frac{1}{4}$ 16 pages.]

THE OHIO RUBBER CO. (Cleveland, Ohio) are issuing some handsome catalogues devoted to the various lines of goods they carry in stock, one of the latest of which is labelled "Storm Proof Clothing," for the season of 1902-03. It illustrates the latest styles in mackintoshes and includes a full list of rubber surface clothing and specialties. [4×9 16 pages]

THE OBITUARY RECORD.

RICHARD R. WHITEHEAD.

RICHARD R. WHITEHEAD, president and treasurer of the Whitehead Brothers Rubber Co., (Trenton, New Jersey), and a pioneer of the rubber industry in that city, died at his home there on July 25. In his death the city lost one of its leading citizens and the rubber interest one of its successful workers.

Mr. Whitehead was born in Hatboro, Pennsylvania, December 24, 1824. He



R. R. WHITEHEAD.

went to Trenton in 1845, where his father had established a woolen mill. This business was continued under the name of John Whitehead & Sons, and later as Whitehead Brothers, until the end of the civil war. In 1870, Messrs. Whitehead Brothers started the manufacture of mechanical rubber goods. This

was the beginning

of an industry that was destined to be very successful and rapidly grew into one of the chief enterprises of New Jersey's capital.

From the inception of the new concern the subject of this sketch was closely identified with the business and its prosperity was largely due to his efforts. The business continued to grow and on November 21, 1887, the Whitehead Brothers Rubber Co. was incorporated and purchased the interests of Whitehead Brothers.

James R. Whitehead was the first president of the new company and Richard R. Whitehead, its vice president and treasurer. The latter became president of the company, January 1, 1894, since which time he had held that position. The company will continue under the management of Howard C. Whitehead, who has been vice president, and Alfred C. Whitehead, secretary and manager.

In addition to showing marked ability in a managerial capacity, the deceased had no small mechanical genius, and perfected several improved processes in rubber manufacturing, which were put into successful operation in his mills. Mr. Whitehead was noted for the close attention which he gave to his business. He devoted his whole time to promoting the interests of his mills and, aside from owning stock in a local bank or two, had no outside business connection. Nor had he any political aspirations.

NICHOLAS WILLIAMSON, M. D.

DR. NICHOLAS WILLIAMSON, a prominent citizen of New Brunswick, New Jersey, and some time mayor of that town, who died on August 15, was connected with a family once largely interested in the India-rubber industry, and had himself been engaged in the business. The deceased was a son of Nicholas Williamson, whose father was a bank president in New York and once comptroller of the city. Nicholas Williamson, Sr., after having been a bank teller, was for two years,

until early in 1853, secretary and treasurer of the Union India Rubber Co. (New York), being succeeded by Frederick M. Shepard. In that year he assisted Christopher Meyer and Martin A. Howell in organizing the Novelty Rubber Co. at New Brunswick, N. J., becoming treasurer and later president of the company, and dying in 1862. Nicholas, Jr., born in New York city in March, 1845, and removing with his family to New Jersey, had prepared for Rutgers College, but on account of the death of his father did not enter. Instead he accepted the position of secretary of the Novelty Rubber Co., where he remained several years, continuing his studies meanwhile. In 1871 he was graduated from the College of Physicians and Surgeons (New York) and entered upon the practice of medicine at New Brunswick. The Novelty Rubber Co., by the way, had a license under Nelson Goodyear's hard rubber patent to make buttons, canes, fancy boxes, and pipes. At one time hard rubber buttons were in great demand for ladies' dresses, and the profits of the company were phenomenal. Later the fashion changed, the hard rubber patent expired, and the company, after various changes, went out of business, selling their premises in February, 1886. Dr. Williamson took an active interest in the affairs of his town, serving several terms as an alderman and three terms (1895-97 to 1899-1901) as mayor. On the day of his funeral, August 18, flags were at half mast throughout the town. Dr. Williamson is survived by his second wife—who was Miss Gurley, of Troy, New York—a son, and three daughters; also by two brothers: Douw D. Williamson, of New Brunswick, and George N. Williamson, of Englewood, N. J.—A brother of Nicholas Williamson—Douw Ditmars Williamson—was interested in the rubber industry at New Brunswick and later at Edinburgh, Scotland, where he was the first manager of the North British Rubber Co., Limited.

* * *

LUTHER R. MARSH, who died recently at Middletown, New York, upwards of 80 years of age, had been one of the great lawyers of his day. He was at one time a partner of Daniel Webster. While it is not known that he ever was interested with Webster in India-rubber litigation, he had some rubber patent cases on his own account. Mr. Marsh was counsel for the North American Gutta Percha Co. of New York, founded in 1853, and was elected a director at the second annual meeting. This company, by the way, was succeeded by the present Gutta Percha and Rubber Manufacturing Co. THE INDIA RUBBER WORLD library contains a pamphlet by Mr. Marsh, in answer to one by William Judson, in a discussion over John Rider's Gutta-percha patent.

—Joseph Henry Converse, who died at his home in Cambridge, Massachusetts, August 2, in his eightieth year, was born in Boston, where he became a successful business man, particularly in connection with the development of street railways. He was also at one time president of two southwestern railway companies, and was interested in coal mining in Nova Scotia. He was for 27 years treasurer of Tremont Temple, in Boston, and aided in the development of various charitable institutions. He was a cousin of the Hon. Elisha S. Converse, and it is mentioned that when the elder brother of the latter—the late James W. Converse—went to Boston to make his start in life, his first employment was with his uncles, Joseph and Benjamin Converse, father and uncle, respectively, of Joseph Henry Converse.

HERBERT C. COMSTOCK has succeeded Silas L. Hazen as sales agent for The Victor Rubber Tire Co. (Springfield, Ohio), in charge of the company's New York branch, No. 1769 Broadway.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the fiscal year ended June 30, 1902, compared with the three fiscal years preceding—not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-May.....	\$578,572	\$981,058	\$1,607,448	\$3,167,078
June, 1902.....	55,574	65,257	174,493	295,324
Total.....	\$634,146	\$1,046,315	\$1,781,941	\$3,462,402
1900-01.....	565,726	724,015	1,727,527	3,017,268
1899-00.....	541,830	420,746	1,405,212	2,367,788
1898-99.....	(a)	260,886	1,504,499	1,765,385

(a) Included in "All other" prior to July 1, 1899.

The number of pairs of rubber footwear exported during the past twelve fiscal years has increased as follows:

1890-91...175,627	1894-95...383,723	1898-99...486,586
1891-92...231,105	1895-96...350,713	1899-00...762,016
1892-93...410,950	1896-97...306,026	1900-01...1,460,100
1893-94...261,657	1897-98...391,832	1901-02...2,594,688

The average invoice value of rubber footwear exported during the last five fiscal years has been:

1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
57.3 cents.	53.6 cents.	55.25 cents.	49.3 cents.	40.3 cents.

RUBBER GOODS EXPORTED TO THE ISLANDS.

	1900-01.	1901-02.
To Cuba.....	\$87,427	\$134,846
" Porto Rico.....	10,263	19,606
" Philippines.....	17,369	58,606

Total.....\$115,059 \$213,058

No returns are available of exports to Hawaii.

IMPORTS INTO THE UNITED STATES.

	1899-1900.	1900-01.	1901-02.
India-rubber goods.....	\$564,088	\$478,663	\$449,756
Gutta-percha goods.....	254,332	163,337	127,780
Total.....	\$818,420	\$642,000	\$577,536
Re-exports.....	12,874	16,888	13,173
Net Imports.....	\$805,546	\$625,112	\$564,363

AUSTRIA-HUNGARY.

OFFICIAL statement of values of rubber goods imported and exported for the first six months of two years:

	1901.	1902.
Imports.....	\$692,390	\$643,287
Exports.....	765,789	796,676

Some of the important classifications were:

IMPORTS.		EXPORTS.		
1901.	1902.	1901.	1902.	
\$31,059	\$30,044.	Hose	\$ 21,599	\$ 32,561
22,168	21,680..	Belting	5,164	...
39,453	29,029..	Footwear.	203,162	136,822
4,263	12,383..	Shoe elastics	76,166	59,824
74,247	77,879..	Other elastics.....	56,610	114,129
6,252	7,247..	Toys	27,040	40,844
74,948	68,350..	Hard rubber goods ..	206,410	176,529

RUBBER FOOTWEAR EXPORTS—JANUARY-JUNE, 1902.

To—	Kilograms.	To—	Kilograms.
Germany.....	70,600	Roumania.....	3,000
Hamburg.....	7,000	Bulgaria.....	400
Great Britain.....	17,600	Russia.....	100
France.....	19,700	Egypt.....	1,200
Switzerland.....	3,300	China.....	500
Italy.....	6,300	British Indies.....	27,900
Spain.....	500	Other lands.....	600
Belgium.....	5,900	Total.....	168,500
Greece.....	600	Six mos. 1901.....	250,200
Turkey.....	3,300		

GERMAN RUBBER GOODS EXPORTS.

OFFICIAL statement of values (in marks) for the first six months of three years:

	1900.	1901.	1902.
Threads and sheets.....	1,445,000	1,463,000	1,621,000
Coarse rubber goods.....	10,698,000	5,982,000	6,314,000
Fine rubber goods.....	824,000	536,000	474,000
Boots and shoes.....	798,000	716,000	1,095,000
Hard rubber.....	220,000	109,000	139,000
Hard rubber goods.....	4,053,000	3,627,000	4,244,000
Rubber coated fabrics.....	2,474,000	2,029,000	2,151,000
Elastic fabrics and hosiery.....	128,000	158,000	163,000
Hemp and rubber hose.....	750,000	892,000	1,018,000
Rubber clothing.....	706,000	832,000	919,000
Unclassified.....	71,000	53,000	80,000
Total.....	22,167,000	16,502,000	18,218,000

This list does not embrace rubber toys, which are classified under the general heading of toys, or bicycle tires, which are included in "bicycles and parts." There are also to be added insulated wire to the value of 2,873,000 marks in the first half of 1901 and 2,097,000 marks for the same period in 1902.

GERMAN TRADE IN RUBBER BOOTS AND SHOES.

Weights in kilograms—first six months of 1902:

Imports.	Exports.	Imports.	Exports.
Great Britain... 12,400	145,400	United States... 70,800	...
France... 3,700	...	Other lands... 3,000	39,800
Belgium... 7,100	...		
Denmark... 3,000	...	Total... 363,800	199,000
Sweden... 12,200	...	Six mos. 1901. 444,600	130,100
Russia... 261,700	...	Six mos. 1900. 432,600	145,100
Aus.-Hungary.. 3,700	...		

FRANCE.

VALUE of imports and exports of manufactures of India-rubber for the first six months of three years—francs converted at 19.3 cents:

	1900.	1901.	1902.
Imports.....	\$1,368,370	\$1,358,527	\$1,363,352
Exports.....	1,057,833	846,884	929,102

The official returns show an increase in imports of belting, hose, and the like; a decrease in unvulcanized sheets and vulcanized threads, and in footwear; and stationary figures relating to tissues and clothing. In exports an increase has occurred in belting and hose, a slight increase in clothing, and a decrease in other classes.

RUBBER BOOT AND SHOE TRADE.

VALUES (expressed in United States money) of imports and exports of various countries—first six months of 1902:

	Imports.	Exports.
United States.....	None.	\$200,267
Great Britain.....	Not stated.	338,913
Germany.....	\$519,554	260,610
France.....	63,883	82,990
Austria-Hungary..	29,029	136,822

American exports in this branch are larger in the last half of the year. Such exports amounted in value, in the twelve months ending June 30, 1902, to \$1,046,315.

RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES for four weeks ended July 29, 1902:

Argentina...\$ 534	Cuba.....	4,537	New Zealand.	6,024
Australia... 7,017	Dan. W. Ind.	43	Nova Scotia..	68
Aus.-Hung'y 150	Denmark...	2,257	Peru.....	241
Azores..... 25	Dutch E. Ind.	25	Philippines..	2,747
Belgium..... 217	Ecuador....	77	Russia.....	80
Brazil..... 2,063	France.....	3,635	San Domingo.	23
British Africa 3,834	Great Britain.	39,248	Spain.....	952
Brit. E. Ind. 1,000	Germany....	11,632	Sweden.....	121
Brit. Guiana 14	Haiti.....	36	Switzerland..	5,520
Brit. W. Ind. 566	Holland.....	11	Turkey....	3,953
Central Amer. 1,386	Italy.....	1,060	Venezuela...	144
Chile..... 101	Japan.....	13,204		
China..... 463	Mexico.....	3,814	Total...\$117,578	
Colombia.... 556	Netherlands.	100		

A TELEGRAPH CODE FOR RUBBER MEN.

THE International Cable Directory Co. (New York and London) have in press a telegraphic code book specially prepared for all who have to do with the business of handling or manufacturing or dealing in India-rubber, Gutta-percha, and asbestos, in any shape or form. This Rubber Code will comprise about 22,000 words and phrases and is designed to be so complete, so far as these particular branches, that no one who uses it can fail to find in it what he needs. Every known article of India-rubber and Gutta-percha goods is included, with code words for dimensions, quality, etc., with the result that users will be able to reduce their expenses for telegraphing and cabling to a surprising extent. For example, three code words may be made to say:

Ship by fast freight 50 feet rubber air drill hose, internal diameter $\frac{3}{4}$ inches, 4 ply (3 ply inside, 1 ply outside.)

The book contains also a list of the leading rubber manufacturers and dealers in rubber goods, together with their registered cable addresses and code words to represent the titles of the companies and firms, so that in this matter alone an important saving can be made. The official vocabulary words in the Rubber Code differ from those in the Western Union Telegraphic Code, published by the same company, so that the two codes will not conflict in any way; indeed, holders of the Rubber Code will be able to use it in conjunction with the Western Union Code, which has thousands of general terms and phrases not to be found in any technical code. It may be mentioned that the Western Union Code is on file in telegraph and cable offices over a great part of the world, and in all United States embassies, legations, and consulates, and that the Rubber Code will be similarly distributed, to the end that holders of it may have the widest possible facilities at command.

From advance sheets of the Rubber Code forwarded to THE INDIA RUBBER WORLD, it can be said that the book has been most carefully compiled and must prove to be a valuable auxiliary to firms in the various lines of manufacture covered by it.

SOME WANTS OF THE RUBBER TRADE.

[262] FROM Germany comes an inquiry for the addresses of the principal elastic web manufacturers in the United States.

[263] "Will you kindly advise us the names of some manufacturers who manufacture green edge goring?"

[264] From Canada: "Will you kindly furnish us with the names of reliable manufacturers of rubber boots and shoes in the United States who are not associated with the rubber shoe trust?"

THE consul of Austria-Hungary at Saloniki, Turkey, reports that the imports of rubber goloshes there amounts to about 2000 boxes of 50 pairs each (100,000 pairs), of which three-fourths come from Austria. The prices are stated to be so low (2.40 francs, or 46½ cents, per pair) that the English product is no longer able to compete in these articles.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED JULY 1, 1902.

NO. 703,408. Rubber tire. William R. Harris, Akron, Ohio.
703,615. Vaginal syringe. Nicolaus C. E. Schwartz, New York city.

703,616. Vaginal syringe. Nicolaus C. E. Schwartz, New York city.
703,896. Manufacture of golf balls. James P. Cochrane, Edinburgh, Scotland.

ISSUED JULY 8, 1902.

704,000. Life preserver. George B. Conley, Cleveland, Ohio.
704,214. Means for longitudinally compressing wired on cushion tires before fitting them into their rims. George Robson, London, England.
704,276. Buggy boot or apron. Heinrich A. Sorensen, Hinckley, Illinois.
704,462. Manufacture of golf balls. Eleazer Kempshall, Boston, Massachusetts.
704,463. Process of making playing balls. Eleazer Kempshall, Boston, Massachusetts.
704,464. Process of manufacturing playing balls. Eleazer Kempshall, Boston, Massachusetts.

Trade Marks.

38,572. Rubber tires. The Goodyear Tire and Rubber Co., Akron, Ohio. Essential feature—the words "The Broadway."

ISSUED JULY 15, 1902.

704,677. Process of purifying Gutta-percha. Adolphe Combanaire and Jean de la Fresnaye, Paris, France.
704,748. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
704,838. Playing Ball. Eleazer Kempshall, Boston, Massachusetts.
704,940. Exercising Machine. John C. Korth and August Ganzenmülle, New York city.
704,881. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
704,882. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
704,953. Rubber tire setter. Hugh R. Au'd, Boston, assignor by mesne assignments of one-half to John J. McGlinchy, Chelsea, Massachusetts.

Trade Marks.

38,599. Dress shields. The Canfield Rubber Co., Bridgeport, Connecticut.
38,633. Insulating material. American Hard Rubber Co., New York city. Essential feature—the word "Sansohm."

ISSUED JULY 22, 1902.

705,038. Vehicle tire. James Christy, Jr., Washington, D. C.
705,072. Rubber tire. Arthur W. Grant, Springfield, Ohio, assignor to the Consolidated Rubber Tire Co.
705,175. Rubber vehicle tire. Charles H. Wheeler and Franklin W. Kremer, Akron, Ohio, said Wheeler assignor to The India Rubber Co.
705,176. Vehicle wheel. Charles H. Wheeler and Franklin W. Kremer, Akron, Ohio, said Wheeler assignor to The India Rubber Co.
705,177. Vehicle wheel. Charles H. Wheeler and Franklin W. Kremer, Akron, Ohio, said Wheeler assignor to The India Rubber Co.
705,178. Solid rubber tire. Charles H. Wheeler and Franklin W. Kremer, Akron, Ohio; said Wheeler assignor to The India Rubber Co.
705,249. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
705,294. Blanket for use in the art of printing. Joseph E. Rhodes, Boston, Massachusetts.
705,359. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
705,392. Pessary. Dayve B. de Waltoff, Brooklyn, New York.
705,453. Hernial truss. John H. Sherman, Beaverdam, Wisconsin.

ISSUED JULY 29, 1902.

705,615. Yielding hoof pad. Thomas Ryan, Germantown, Pennsylvania.
705,764. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
705,765. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
705,766. Golf ball. Eleazer Kempshall, Boston, Massachusetts, assignor to the Kempshall Manufacturing Co.
705,768. Wheel tire. Hyman Lieberthal, Chicago, Illinois.
705,908. Cushioned horseshoe. Phillip J. Coates, Macon, Georgia.
705,916. Bottle nipple. Phillip Gauss, New York city.

Trade Marks.

38,670. Golf balls. M. Hartley Co., New York city.
38,700. Pneumatic tires for bicycles, carriages and automobiles. Fisk Rubber Co., Chicopee Falls, Massachusetts.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

[* *D* notes Applications from the United States.]

APPLICATIONS—1902.

- 11,912. John Watson, 136, Albion road, Stoke Newington, London. Watson's "Pneumatic" combined India-rubber tire and rim. May 26.
- 11,943. Frank John Nunn, Drinkstone, Suffolk. Puncture proof detachable elastic band for pneumatic tires. May 26.
- 11,945. Edward Alfred Stretton, Birmingham. Pneumatic tires for motor vehicles. May 26.
- 11,981. James Cottrell and Alfred Henry Smith, 22, Southampton buildings, Chancery lane, London. Locking bands for pneumatic tire covers. May 26.
- *11,996. Eleazer Kempshall, 19, Holborn viaduct, London. Golf balls. May 27.
- 12,009. John Harry Parr, Manchester. Coupling for rubber hose. May 27.
- 12,010. I. N. Fringer, 2 A, Holborn viaduct, London. Solid cored pneumatic tire for vehicles. May 27.
- 12,065. Frederick Thorpe, 38, Chancery lane, London. Non-skidding device for pneumatic and other tires. May 27.
- *12,006. Samuel Nelson House, Dallas, Texas, United States. Machine for shrinking tires to vehicle wheels. (Date of application in the United States, May 27, 1901.) May 27.
- 12,006. Francesco Toni, 70, Chancery lane, London. Pneumatic tires. May 27.
- 12,124. John Sharpe Wilbrahm Edmunds, 111, Hatton garden, London. Pneumatic tires. May 27.
- 12,191. Francesco Toni, 70, Chancery lane, London. Pneumatic tires. May 28.
- 12,231. McAdam Alexander Birkmyre, Whitewell, near Belfast. The M. A. B. combined horse shoe and pad. May 29.
- 12,313. Paul Low and August Thiel, 18, Buckingham street, Strand, London. Improvements in tires. May 29.
- 12,344. Joseph Fairbairn and Robert Mitchell, Jr., Glasgow. Contrivance for sustaining compression in a clinched in rubber vehicle tire. May 31.
- 12,370. Emil Leonard Fehr, Liverpool. Grooved ground rollers of machines for covering wire with rubber. [Conrad Felsing, Junior, Germany.] May 31.
- 12,376. Edward Fry Wood, "Starcross," Monkseaton, Northumberland. Pneumatic boot tree. May 31.
- *12,462. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Golf balls. (Date of application in the United States, March 24, 1902.) May 31.
- *12,468. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Golf balls. May 31.
- *12,473. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Artificial sponge. [Alexander Straus, United States.] May 31.
- *12,475. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing balls. May 31.
- *12,477. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Balls for playing golf and other games. May 31.
- *12,479. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Balls for playing golf and other games. May 31.
- *12,480. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing balls. May 31.
- 12,486. Thomas Ried, Northfield, Worcester. Inflatable tubes for pneumatic tires. June 2.
- 12,524. Arthur Walters, 24, Granby street, Bethnal green, London. Unpuncturable spring tire. June 2.
- 12,629. Harry Lucas, 18, Southampton buildings, Chancery lane, London. Valves for pneumatic tires. June 3.
- 12,646. Ernest Lambe, 77, Colmore row, Birmingham. Exercising and developing apparatus. June 3.
- 12,675. John Wesley Blodgett, 18, Buckingham street, Strand, London. Pneumatic tires and methods of manufacturing the same. June 3.
- 12,741. Frank Holcombe, Cardiff. Pneumatic tires. June 4.
- 12,772. Harry Alfred Goodyear, 38, Chancery lane, London. Pneumatic tires. June 4.
- 12,807. James Menzies, 39, Winterbrook road, Herne Hill, London. Process for rendering cloth and other fabrics waterproof. June 5.
- 13,063. Charles Cunningham Black, Glasgow. Machine for stamping, pressing or moulding metals, coal peat, clay, Gutta-percha, India-rubber, paper pulp and the like. June 9.
- 13,077. Jonathan Aldous Mays, 75, Chancery lane, London. Elastic wheel tires. June 9.
- 13,081. Isidore Clifford, 20, Grosvenor street, London. Pneumatic tire protector. June 9.
- 13,163. George Henry Hastings, 43, Gibson square, London. Puncture proof tire. June 10.
- 13,280. George Edward Heyl Dia, 6, Lord street, Liverpool. Pneumatic tires for wheels. June 11.
- 13,284. Moritz Weiss, 45, Southampton buildings, Chancery lane, London. Tires for vehicle wheels. June 11.
- 13,294. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Process for applying insulating waterproofing to various articles. [The Société Anonyme le Carbone, France.] June 11.
- 12,815. St. Mungo Manufacturing Co., and Alexander Cochrane Wood, Glasgow. Golf ball. June 12.
- 13,379. Mindle Lipowsky, 614, Old Ford road, Bow, London. Outer covers for rubber tires, solid or pneumatic, for cycles or vehicles. June 13.
- 13,423. Charles Habley Burt, 321, High Holburn, London. Pneumatic tires. June 13.
- 13,700. William George Paterson, Glasgow. Covers for pneumatic wheel tires. June 17.
- 13,702. George Ellis, Rochdale. Pneumatic tires. June 17.
- 13,805. Joseph Goldsworthy, Manchester. Solid rubber tires for vehicles. June 18.
- 13,889. Charles George Fernie, West Wrattling Park, near Cambridge. Pneumatic tubes for wheels of cycles and vehicles. June 19.
- 13,944. Jens Jacob Christian Albers, Alleestrass 221, Barmen, Germany. Process for folding elastic textile goods and for bulging out the folds at the same time, and apparatus used therein. June 19.
- 13,951. Stephane John Joseph Drzewiecki, 60, Queen Victoria street, London. Pneumatic tires. June 19.
- 13,968. James Condie Stewart Sandeman and Andrew Herd Scott, Glasgow. Golf balls. June 20.
- 14,074. Hugh McCulloch, Glasgow. Preventing the puncturing of pneumatic tires. June 21.
- 14,100. Russel Biglow Sigafos, 33, Chancery lane, London. Reels or spools for flexible hose. June 21.

PATENTS GRANTED.—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 2,513. Life buoys. Freytag, A., Leignitz, and Stiller, H., Breslau, both in Germany. February 5, 1901.
- *2,524. Rubber tire. Starr, F. W., Springfield, Ohio, United States. February 5, 1901.
- *2,757. India-rubber horseshoes. Riley, J., No. 248 West Twelfth street, New York. February 8, 1901.
- 2,952. Rubber steps for vehicles. Barker, B., Sheffield, Yorkshire. February 12, 1901.
- 3,482. Golf balls. Kingzett, C. T., Chislehurst, Kent. February 18, 1901.
- 3,592. Viscose. Cross, C. F., and Bevan, E. J., 4, New court, London, and Beadle, C. Erith, Kent. February 19, 1901.
- 3,734. Metal and rubber tire. Gare, T., New Brighton, Cheshire. February 21, 1901.
- 3,802. Pneumatic tire. Seddon, E. H., Brookside, Cheshire. February 22, 1901.
- *3,931. Punching bags. Kotten, H. G., Englewood, New Jersey. February 23, 1901.
- 4,167. Method of attaching pneumatic tire to wheel rim. Crosby, A. S., and Billings, J. G., Evesham, Worcestershire. February 26, 1901.
- 4,238. Pneumatic tire protector. Legrand, J. P., 9, Rue Danton, Levallois-Perret (Seine), France. February 27, 1901.
- 4,360. Boots and shoes. Matthew, P. M., Victoria India Rubber Mills, Edinburgh. March 1, 1901.
- *4,548. Pneumatic tire cover. Harloe, M., Hawley, Pennsylvania, United States. March 4, 1901.
- 4,563. Pneumatic tire cover. Hubbard, J., Seven Kings, Essex. March 4, 1901.
- 4,732. Pneumatic tires. Stowe, G., Edgbaston, Birmingham. March 6, 1901.
- 4,803. Method of devulcanizing India-rubber. Duwez, O. F. J., Rue D'hores, Enghien (Hainaut), Belgium. March 6, 1901.



RECLAIMING RUBBER WITH POWER FROM NIAGARA FALLS.

THE new factory of the U. S. Rubber Reclaiming Co., located at Buffalo, New York, was formally opened on Thursday morning, August 21, in the presence of a large party of prominent citizens of Buffalo and visitors from a distance. It was notable, although the great plant is only just completed, that every piece of machinery ran perfectly and there was no suggestion of breakdown, nor was there even the appearance of confusion that is likely to be observed at such a time.

The factory buildings are all brick, three stories in height, of mill construction and equipped throughout with the best of labor saving devices. All of the machinery is set on bed rock,

some \$20,000 having been expended on foundations alone. The power, which is furnished from Niagara Falls by the Cataract Power Co., is applied through an induction motor which is the largest for commercial purposes in the world, and has been tested for 1500 horse power. This is connected with a rope drive said to be one of the best pieces of work that the Dodge company, of Mishawaka, have ever produced. There is also another induction motor of 150 H. P. which drives the conveyors, elevators, etc.

The factory is equipped throughout with the Estey sprink-



VIEW OF ONE SIDE OF THE MILL ROOM.
[Fourteen Sheetting Mills in a Line 160 Feet Long.]



THE LARGE INDUCTION MOTOR.

lers, and is insured in the Factory Mutual Insurance companies. In addition to this, there is, for fire equipment, a set of hydrants, a large fire pump, a tank on the main tower, and an ample reservoir in the basement.

The machinery, which was furnished by the Birmingham Iron Foundry, consists of sheeting mills 18"×42", washers 16"×40", crackers 16"×30", and grinders 22"×70", the latter using 75 horse power each. There is also an outfit of devulcanizers 5'×40', lead lined cooking tubs, and 20 foot washing tubs with rotary cones.

The boiler house is separate from the rest of the plant, and is made of steel with a concrete roof, the boilers being erected by the Phoenix Boiler Works of Meadville, Pennsylvania. In addition, the factory is fitted with acres of screen dryers through which hot air is forced by fans, with belt conveyers running from one floor to another, and indeed with every device that exists in the way of economy.

The capacity of the plant at the present time is thirty tons per day, but it can be easily increased to fifty tons. In addition to this the company have, it will be remembered, a plant at Derby, Connecticut, which has a daily capacity of ten tons, and also another factory with a daily capacity of eleven tons in Jersey City. The work of the latter plant, however, will be later transferred to Buffalo.

A notable exhibit at the time of the opening was the great stock of old shoes that were stacked in the factory yard and also in the great storehouse, there being over \$500,000 worth of shoes in sight, besides large stocks at the other factories.

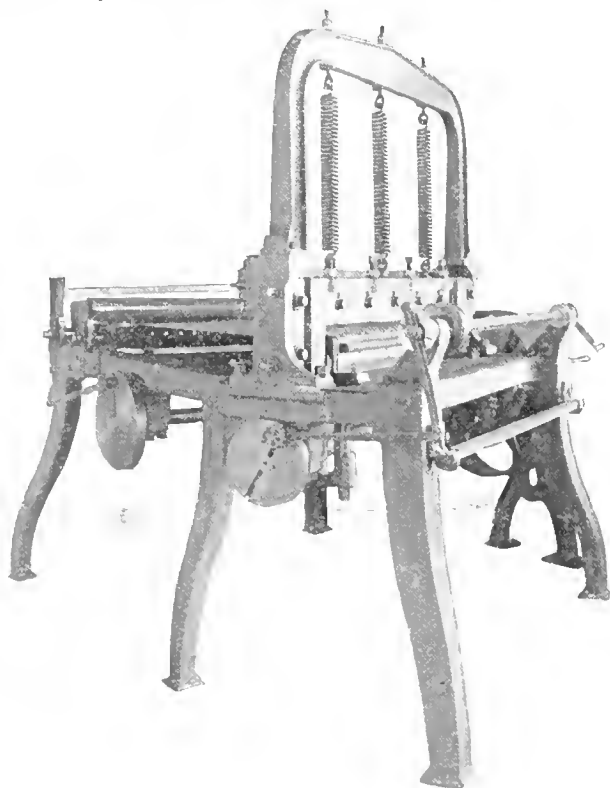
Among those at the opening were Theodore S. Bassett, president, and R. A. Lowenthal, vice president, of the company; the Editor of THE INDIA RUBBER WORLD; Colonel F. C. Ward, commissioner of public works of Buffalo; Councilman Christian Klinck; C. M. Huntley, president of the Cataract Power Co.; D. B. Sherwood, S. G. Sherwood, F. Cushing; A. and W. Oppenheimer, partners in Oppenheimer & Co., and representatives of the leading Buffalo newspapers.

The party was shown over the works by Messrs. Bassett and Lowenthal, assisted by Mr. Fred. Griscom, the company's engineer. General Superintendent W. F. Askam, unfortunately, was detained at home by illness. After the starting of the machinery by Mr. Huntley and the subsequent trip through the works, the visitors assembled in the handsomely equipped office, where a caterer had prepared a bountiful lunch. The officers of the company were the recipients of warm congratulations from all present, and a leading Buffalo capitalist who was present predicted that ere long other large rubber plants would locate in Buffalo and be run by the same constant and economical power—Niagara Falls.

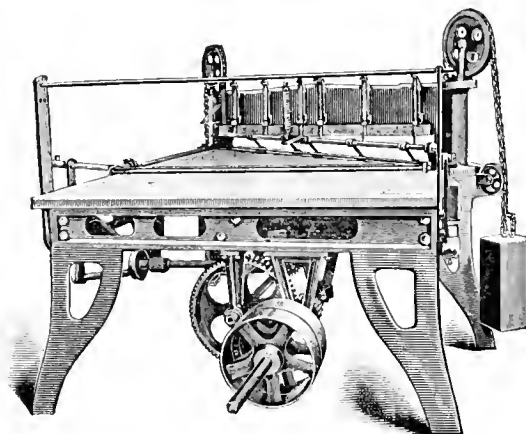
THE CUTTING OF RUBBER COATED FABRICS.

PERHAPS the most difficult problem that mechanical engineers have had to solve in connection with the rubber manufacture is the cutting of bias strips from rolls of rubber coated cloth. So important a question is this that a great deal of money and ingenuity have been expended in the attempt to weave fabrics on the bias, but so far without

success. At the present time wide strips such as are used in hose and tires are cut by hand, as the cost of designing a machine to do this work would be considerable and the present hand cutting is done at a low cost. One of the machines shown in accompanying illustrations is known as the Birmingham Bias cutting machine. This is used very largely by concerns who manufacture rubber shoes and is designed for cutting up the friction stock into "piping"—that is, strips about $\frac{3}{4}$ inch wide. These machines are made in two widths—28 and 46 inches—the former cutting strips at the rate of 100 a minute and the latter about



BIRMINGHAM BIAS CUTTING MACHINE.

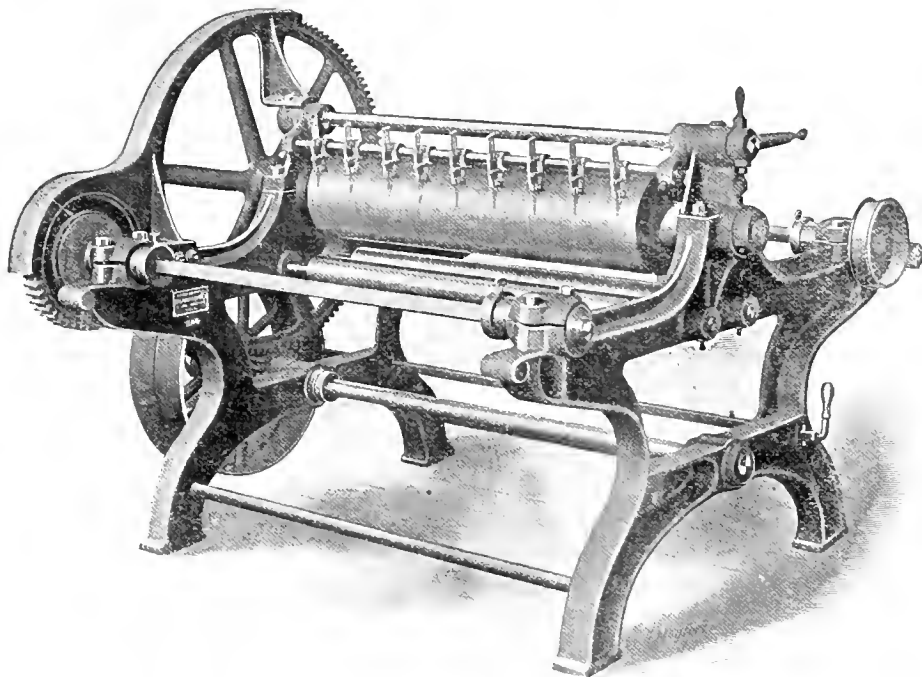


SMITH'S BIAS CUTTING MACHINE.

60 a minute. Another bias cutting machine, known as Smith's, has already been described in THE INDIA RUBBER WORLD. This was intended to cut fabrics for hose, tires, mackintosh bindings, piping, and the like. The machine was planned in three sizes, the smaller to cut 24 inch strips into widths of 6 inches and less; the medium sized to cut 44 inch goods into widths of 6 inches and less; while the larger machine was built to cut 66 inch goods into widths up to 18 inches.

Machines also used in almost all mechanical rubber factories

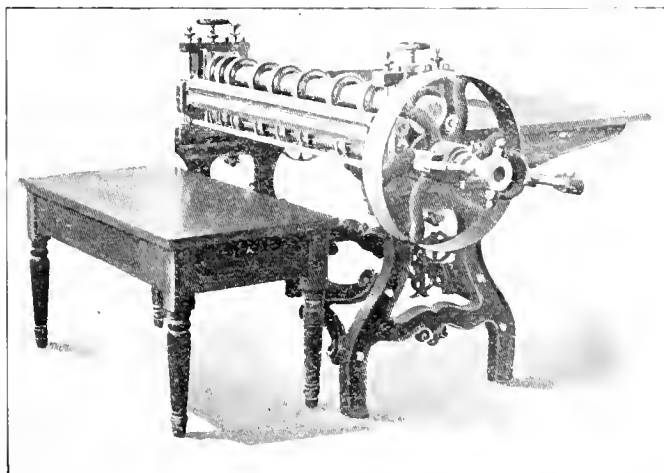
are what is known as "duck slitters." Reference to the illustration of the Farrel duck splitter will show any one familiar with the rubber business how the roll of duck is put in the machine, run over the grooved rolls, and slit by the knives that fit into these grooves. These knives, by the way, are adjustable, so that strips of various widths can be made. The cutting roll of the Farrel machine is 44 inches long and is designed to cut cloth up to 42 inches wide, and into strips from 1 inch wide upward, varying by eighths of an inch. It is furnished



THE FARREL DUCK SLITTING MACHINE.

with a friction brake for holding the cloth roll, with a geared friction wind-up and two cloth bars each $1\frac{1}{4}$ inches square, and nine knives and knife holders.

It is interesting to note in this connection, that manufacturers of paper boxes use almost an identical mechanism for cutting paper into strips; indeed, a very simple adaptation of the Robinson machine, shown in the illustration, makes a duck splitter that is used by certain of the large mills. While in ordinary practice the duck splitter has rigid knives, the Robinson cutter is fitted with double knives which make a shear cut.



THE ROBINSON DUCK SLITTER.

RUBBER NOTES FROM EUROPE.

THE balance sheet of the Leyland and Birmingham Rubber Co., Limited (Birmingham, England) for the year ending June 30, 1902, shows a profit of £27,608 13s. 5d. After paying a total dividend for the year of $7\frac{1}{2}$ per cent. (on £233,557 share capital), and placing a liberal sum to the reserve account, the balance carried forward is £6151, against £4369 last year.

=The Dunlop Pneumatic Tyre Co., Limited, announce that a reduction in the price of their tires will date from October 1, due to the fact that the company now manufacture the whole of their requirements, instead of having to pay, as formerly, intermediate profits to other firms.

=Imports of rubber goods at Bordeaux during 1901 amounted to 61,936 pounds (including 5488 pounds of rubber boots and shoes), and in 1900 to 34,384 pounds.

=The Norddeutsche Seekabelwerke, Actiengesellschaft, cable manufacturers at Nordenham, Germany, have decided to increase their capital from 4,000,000 to 5,000,000 marks, by the issue of new shares at a premium of $2\frac{1}{2}$ per cent., to enable the company to construct the new Atlantic cable. The company have placed an order for a second cable steamer, of 5000 tons, to be employed in laying the cable.

MOSELEY'S A LIMITED LIABILITY COMPANY.

DAVID MOSELEY & SONS, LIMITED, is the name of a new company registered under the Public Companies act, in England, to acquire the business of India-rubber manufacturers and merchants, carried on by the brothers David, James F., and Oswald G. Moseley, as David Moseley & Sons, at the Chapel Field works, Ardwick, Manchester. The capital is £300,000 (= \$1,459,950), in £10 shares, of which 14,000 are preferred and 16,000 ordinary. The three brothers are named as permanent governing directors. It was in 1857 that David Moseley began business in a primitive way, by proofing cloth in a small room off Rusholme road, Charlton-on-Medlock, assisted by his two sons, Joseph and Charles, then respectively 19 and 17 years of age. While they were still young men the death of the father left them with the responsibilities of a growing business, which they met so successfully that the firm of David Moseley & Sons grew to be one of the most important in the rubber industry in Great Britain, its output embracing nearly the whole list of rubber products. Charles Moseley died in 1887 and Joseph Moseley ten years later. The present heads of the firm are the sons of Joseph Moseley, and have been actively associated with the conduct of the business for years.

M. H. LEWIS has resigned as vice president and general manager of the Mexican Gulf Agricultural Co., taking effect August 1, and on January 1 will enter a New York banking firm handling Mexican and South American securities. In August, 1894, Mr. Lewis formed a planting corporation, with \$50,000 capital. At the end of eight years the capitalization had increased to \$950,000, on which 8 per cent. was paid last year. While coffee has been the principal interest, the work done under Mr. Lewis's supervision has helped not a little in advancing the rubber planting industry.

NEWS OF THE AMERICAN RUBBER TRADE.

PENNSYLVANIA RUBBER CO.'S NEW FACTORY.

THE Pennsylvania Rubber Co. (Erie, Pa.) have been busy for some months past in establishing a new plant at Jeannette, Pa., a point 26 miles from Pittsburgh, their plans for which were outlined in THE INDIA RUBBER WORLD of March 1, 1902 (page 191). The main building is rapidly nearing completion, and some thirty car loads of machinery has already been delivered and is being set in place. The company expect to move to their new quarters during October.

ANOTHER OHIO TOWN WITH A RUBBER FACTORY.

THE Excelsior Hard Rubber Co., which for several years have been manufacturing hard rubber covered harness mountings at Canton, Ohio, recently were reorganized, with an increase of capital from \$10,000 to \$25,000. The new officers are: S. F. Lechner, president; W. M. Tracy, vice president; T. E. Wilson, treasurer; and M. E. Fisher, secretary—all of Mineral City, Ohio. The factory has been removed to the latter place, where a three story building has been purchased for it, and the company will take up the manufacture of hard rubber for X-ray apparatus and other novelties, while continuing their old line of production. They have just obtained from the Birmingham Iron Foundry a new washer, mixer, and calender.

FIRE IN A PITTSBURGH RUBBER STORE.

ON the morning of July 29 the stock of rubber goods carried by the large jobbing house of Stewart Brothers & Co., No. 917 Liberty street, Pittsburgh, Pa., was almost totally destroyed by fire. The damaged stock was sold to a salvage company of Chicago, and removed to the latter city. The firm at once leased a nearby building—Nos. 937-939 Liberty street—where goods due them from the factory soon began to arrive, and within a week shipments were being made to customers. The firm inform THE INDIA RUBBER WORLD that they expect to be reestablished in their old location early in the present month, with an entire new stock, and that all their fall orders on rubber and leather goods will be shipped on time.

AMERICAN CIRCULAR LOOM CO. (BOSTON).

THIS company has opened offices at 27, Chancery lane, London, for introducing its flexible loom conduit in Great Britain. Mr. J. H. Cummings, European agent for the company, will be in charge. The product is claimed to possess many advantages for interior wiring, and it is stated that in the United States alone 15,000,000 feet were used last year. The tube is constructed of a spiral of insulating fiber, wound with heavy Pará rubber friction tape, over which is a continuous woven jacket of cotton. The whole tube is then saturated with an insulating compound, and finally run through powdered mica, thus producing a tube that is at once flexible, waterproof, and fireproof.

MR. SHEPARD'S GIFTS TO NORFOLK.

At the annual meeting of the Norfolk (Connecticut) Water Co., on August 5, President Frederick M. Shepard presented to the company a handsome building known as "The Lodge" and a good deal of land on the shores of Lake Wangum, the source of the town's water supply. The water company thus becomes owner of most if not all of the land surrounding Lake Wangum. The officers elected for the year are: Frederick M. Shepard, president; R. I. Crissey, vice president; Edmund Brown, secretary and treasurer. The other directors are F. M. Shepard, Jr., E. C. Stevens, H. A. Stanard, and M. N. Clark.

Norfolk, in Litchfield county, was the birthplace of Mr. Shepard, who is president of the Goodyear Rubber Co. (New York), and for some years was president of the United States Rubber Co., and who has contributed liberally to the welfare of his native town. Recently he aided in the improvement of the roads of Norfolk, and it is reported that a piece of property owned by him in that town to be utilized as a site for the fire department.

CONVENTION OF FIRE ENGINEERS.

THERE are likely to be some interesting exhibits by the fire hose manufacturers in connection with the annual convention of the International Association of Fire Engineers, to be held in New York, September 16-19. Chief engineers of fire departments, fire commissioners, members of council fire committees, superintendents of fire insurance patrols—in fact, representatives of every class connected in an official or semi official way in the management or conduct of fire departments, or those who are interested in fire extinguishing methods, are expected to embrace this opportunity to become associated with the most powerful fire organization in the United States.

HARTFORD RUBBER WORKS CO.

THE annual conference of the officers, branch managers, and traveling representatives of this company, at Hartford, was attended by everybody in these classes, and was regarded as one of the most successful in the history of the company. On Thursday, August 14, the whole force was entertained by the company at a "shore dinner," at Branford Point, Connecticut, in connection with which a program of sports was arranged.

GROWTH OF THE W. D. ALLEN COMPANY.

THE W. D. Allen Manufacturing Co. (Chicago), are now operating their new brass foundry in a building erected by them for the purpose, and are in a position to fill promptly orders for brass goods advertised in their Catalogue No. 16. During the past year the demand has been beyond their capacity to fill, but the new foundry will enable them to handle properly their rapidly developing business. The new building is 167×60 feet, with all the modern improvements, including the celebrated saw tooth roof, and is said to be, in respect to light, ventilation, and convenience for the workmen, the best equipped brass foundry in the West, if not in the United States.

A NEW RUBBER JOBBING CENTER.

THE Wiggins Rubber Co., Limited (Shreveport, Louisiana)—a new concern mentioned under the head of "new corporations" on another page—advise THE INDIA RUBBER WORLD that Shreveport has been a good jobbing center for several years. More than \$15,000,000 worth of groceries alone were jobbed out of that place last year. Shreveport is an important cotton market, has five national banks and numerous other enterprises, and Messrs. Wiggins regard the location as a good one for a wholesale jobbing business in rubber and other druggists' sundries. They expect to have traveling salesmen to cover east Texas, south Arkansas, north Mississippi, and middle and north Louisiana.

PROFITS OF THE CHEWING GUM "TRUST."

NONE of the industrial consolidations has proved more successful than the American Chicle Co. Chicle, by the way, is a Mexican gum related to India-rubber, and is the basis of the "chewing gum" of commerce. The founders of the company

were fortunate in including all the chewing gum factories in the original organization, and although it may have appeared heavily over-capitalized, the payment of dividends has been maintained, and recent sales of common stock have been made above par—at 110, in fact, and preferred at 91. The company will benefit materially by the removal of the internal revenue tax, dating from June 30, last. The tax of 1 cent per package on chewing gum yielded the United States government \$366,530.95 during the fiscal year ended June 30, 1899, and \$326,105.49 during the year ended June 30, 1900. The figures are not yet available for the fiscal year ended June 30, 1901, but they will probably not exceed \$350,000. This points to a probable average consumption of 35,000,000 packages in the United States alone, not counting exports. One of the American Chicle Co.'s factories, by the way, is located at Toronto, Canada, and its product is not considered in the above estimate. Meanwhile the consumption of crude Chicle has increased, as shown by the records of imports into the United States during the past three fiscal years, as follows:

	1899-1900.	1900-01.	1901-02.
Pounds	2,297,992	3,140,768	4,580,605
Value	\$354,720	\$753,696	\$936,065
Average value	15.4 cents	24 cents	20.4 cents

These figures, by the way, embrace the supplies for Canada. During the week ended August 19 exports of Chicle from New York for Canada amounted to \$13,778 and for Liverpool, \$850. During a preceding week Chicle valued at \$965 went to Australia. A dividend of 1 per cent. on American Chicle common will be paid September 10.

THE YATMAN RUBBER CO.

MR. H. J. YATMAN, whose surname is now used by a very prosperous company in Harrison, New Jersey, has been connected with the rubber trade now over twenty years.

His apprenticeship began in the office of the Riverside Rubber Works (Belleville, N. J.), where he remained for some years, until he formed the Essex Rubber Co., which had a very complete little plant in Newark. He made such a success of small work, particularly in the line of pencil tips, that the American



H. J. YATMAN.

Pencil Co. made him an offer for the whole business, which he accepted. He then incorporated The Yatman Rubber Co., with a factory in Newark, which they later outgrew and moved to larger quarters at Harrison. The new plant gives double the former capacity, yet orders have crowded in to such an extent that the factory is running twenty-two hours a day to keep abreast of them. Mr. Yatman is not only the active man in his factory, but attends to the marketing of the goods as well. His new plant is well fitted with modern labor saving devices, and incidentally it might be related that he is the first of the rubber men to adopt the vertical type of the Hewes & Phillips engine as part of the power plant.

RUBBER FOOTWEAR FOR THE INDIANS.

BIDS were opened at the office of Indian affairs, at Washington, on August 5, for supplying rubber footwear. There were thirteen bidders. Contracts were awarded as follows:

J. Edmund Strong (Chicago), for 2190 pairs of boys' arctic over-shoes: Sizes 1 to 2, 57 $\frac{3}{4}$ cents; sizes 3 to 6, 72 cents.

John Wanamaker (Philadelphia), for 670 pairs of men's rubber boots: Sizes 7 to 11, \$1.84. Also: 1165 pairs children's arctics, 45 cents; 420 pairs ladies' and misses' arctics, 49 cents; 910 pairs men's arctics, 72 cents; 632 pairs ladies' rubber shoes, 31 $\frac{1}{2}$ cents; 370 pairs girls' rubber shoes, 18 cents; 1580 pairs boys and misses' rubber shoes, 23 $\frac{3}{8}$ cents; 500 pairs men's rubber shoes, 36 cents.

The number of pairs comprised is 8437, and the total value, as nearly as can be computed from these figures, \$4867.75. Bids were to be opened at Philadelphia, on August 26, for further supplies.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 2	716	17	15	716	57 $\frac{7}{8}$	56
Week ending Aug. 9	150	15	15	200	57 $\frac{1}{4}$	57
Week ending Aug. 16	100	16 $\frac{3}{4}$	16 $\frac{3}{4}$	100	56	56
Week ending Aug. 23	400	16 $\frac{1}{2}$	16	....	....	....

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 2	11,050	22 $\frac{3}{4}$	20	500	70	68
Week ending Aug. 9	2,200	21 $\frac{1}{2}$	20 $\frac{1}{2}$	100	69	69
Week ending Aug. 16	100	20 $\frac{1}{2}$	20 $\frac{1}{2}$	150	69	69
Week ending Aug. 23	1,600	20 $\frac{1}{4}$	19	600	70	69

BAILEY'S "WON'T SLIP" TIRES IN EUROPE.

A. H. OVERMAN, who will be remembered as the enterprising founder of the Overman Wheel Co. (Chicopee Falls, Mass.) has, for some time past, been in London. While there he fitted his automobile with the Bailey "Won't Slip" tires, and was so delighted with their work on the slippery London pavements, that he connected himself with the well known firm, The Clarkson & Capel Steam Car Syndicate, Limited, of Chelmsford, who have purchased the British patents of Mr. Bailey and will equip their entire output with these tires. Mr. Bailey has also accepted an offer from the same house for the French patents for the same tire.

RUBBER SHOE TRADE IN CANADA.

As far as can be gathered [says *The Canadian Shoe and Leather Journal*] the amount of early orders is up to the usual average, and the opinion prevails that the season's trade will considerably exceed that of last year. Fewer American shoes have been put on the market, and this has left the home product more chance for expansion. The fight for business among the various companies has been keen, but has not resulted in breaking away in terms or prices to any account.

NEW INCORPORATIONS.

THE Camp Rubber Co. (Ashland, Ohio), July 28, under Ohio laws; capital, \$50,000. The Faultless Rubber Co. (Akron, Ohio) are interested in this new manufacturing enterprise, regarding which further details appear in another place.

=The Reese Waterproof Manufacturing Co. (Oakland, California), June 1, under California laws; capital, \$200,000. W. G. Reese is president, J. W. Phillips vice president and business manager, A. L. Hamilton treasurer, and C. K. Smith secretary. The company claim to control a compound for waterproofing tarpaulins, horse covers, lap robes, coats, etc., suited for all climates, allowing the goods to retain their flexibility and not calculated to harm the fiber of the goods.

=The Wiggins Rubber Co., Limited (Shreveport, Louisiana), June 24, 1902, under Louisiana laws; capital, \$20,000. Allen C. Wiggins, president; J. D. Martin, vice president; E. L. Hickey, secretary and treasurer. The first two named have been connected with the wholesale drug business for several years, and the new firm expect to wholesale everything in rubber goods that is usually handled in retail drug stores.

=The Ohio Wringer Co. (Springfield, Ohio), July 23, under Ohio laws, to manufacture clothes wringers; capital, \$15,000. Officers: George D. Leedle, president; M. R. Harris, vice president and treasurer; C. C. Leedle, secretary. The new company succeeds to the business of the Ohio Wringer and Lawn Mower Co. and will operate the factory, discontinuing the manufacture of lawn mowers. George D. Leedle will be superintendent and general manager and Mr. Harris general sales manager.

=Union Rubber Co., August 20, under New Jersey laws, to deal in rubber goods; capital, \$100,000. Incorporators: Wilson H. Harding, Nelson L. Petty, Richard C. Chamberlain. The principal office is at Trenton, New Jersey.

=The Henry A. Gould Co., August 7, under New Jersey laws; "to carry on the business of manufacturers, merchants, wholesale and retail, importers and exporters, but to deal especially in rubber and rubber goods;" capital, \$125,000. Mr. Henry A. Gould, of New York, informs THE INDIA RUBBER WORLD that the interest of the corporation in rubber will be wholly as merchants. The office in New Jersey will be at No. 525 Main street, East Orange, New Jersey.

=The Sweet Tire and Rubber Co. (Batavia, N. Y.), August 21, under New York laws, to manufacture rubber tires; capital \$30,000. Directors: Frank Richardson, Ashton W. Caney, John M. Sweet, and John H. Ward, of Batavia, and Orator F. Woodward, of Le Roy, N. Y. Mr. Richardson was until late president of the Batavia Carriage Wheel Co., Mr. Sweet, superintendent of that company's factory, and Mr. Caney a traveling salesman for it. Mr. Sweet is patentee of a solid rubber vehicle tire now on the market, and has invented new mechanical processes for making and applying tires. A factory will be established at Batavia, for the making of tires at first, with the idea of adding other lines of rubber manufacture.

TRADE NEWS NOTES.

At a meeting of the stockholders of the Empire Rubber Manufacturing Co., held at the company's office at Trenton, New Jersey, on August 4, Mr. Charles H. Baker was elected vice president and Mr. C. Edward Murray treasurer of the company.

=Mr. E. P. Camp has been appointed New York manager for the Empire Rubber Manufacturing Co. (Trenton, New Jersey) at Nos. 88-90 Reade street. Mr. Camp was formerly connected with the New York office of the International Automobile and Vehicle Tire Co.

=The Ohio Rubber Co. (Cleveland, Ohio) recently leased a three story warehouse in the rear of their store on Superior street, thus giving them much additional room for the large stock of clothing and footwear which their increasing trade compels them to carry.

=The Eureka Rubber Manufacturing Co. (Trenton, New Jersey), the incorporation of which was recorded in the last INDIA RUBBER WORLD, have opened an office in New York at No. 56 Reade street (Telephone 4540 Franklin), in charge of Mr. S. V. B. Brewster, as manager, assisted by Mr. R. A. Strong. Both those gentlemen were connected formerly with the Empire Rubber Manufacturing Co. A Boston store has been opened at No. 289 Devonshire street and a Chicago store at No. 248 Randolph street.

=The Fisk Rubber Co. (Chicopee Falls, Mass.), being obliged by the growth of their tire business to enlarge their premises, have awarded contracts for an extensive addition in the rear of their present buildings.

=The factories of the Boston Rubber Shoe Co. resumed work on August 12, after a two weeks' shutdown.

=Contracts have been awarded for the new factory buildings of the Vulcanized Rubber Co., at Morrisville, Pennsylvania, reference to which was made in the last INDIA RUBBER WORLD, and the company hope to occupy their new plant by New Year's.

=It has often been claimed that no rubber factory or rubber store has been struck by lightning. The store of the New England Rubber Co. (No. 115 Pearl street, Boston), however, was injured by a bolt of lightning which struck across the street, the windows being smashed and mortar, dust, and glass scattered through the store. It was not struck by lightning and perhaps the old saying holds true.

=The annual outing of the employees of the Tyer Rubber Co. (Andover, Massachusetts), on August 2, took the form of a trip by special train to the seashore, at Revere beach. There were 300 in the party, filling six cars, and the day was spent in bathing and such amusements as the place afforded—in addition, of course, to dinner.

=The Davol Rubber Co. (Providence, Rhode Island) have found the "Morris Spring Bottom Duck Basket" very suitable for their use, and have placed orders for several dozen.

=The Concord Rubber Co. (Boston, Mass.) are branding their goods as "union made," with the label of the Boot and Shoe Workers' Union. They are making rubber boots and shoes in two grades, first and second, marked "Concord Rubber Co." and "Banker Hill," respectively. Paul Brothers, jobbers in Philadelphia, will handle these goods this season.

=Ludwig T. Petersen, a chemist of Revere, Massachusetts, has been appointed manager of the research and test department in the rubber factory of The B. F. Goodrich Co. (Akron, Ohio).

=Three additional 750 H. P. boilers have been ordered by the Farrel Foundry and Machine Co. (Ansonia, Connecticut), from the Hazelton Boiler Co. (Rutherford, N. J.)

=The "Morris Spring Bottom Duck Basket" has been adopted by the Bourn Rubber Co. (Providence, Rhode Island), they having found it an excellent mill basket in every particular.

=At a hearing before a United States commissioner at New York, on July 28, under a charge that the government had been defrauded by the importation as washing crystals at 25 per cent. *ad valorem*, of materials which were practically pure borax, and, therefore, subject to a duty of 5 cents per pound, the expert witness for the government was Durand Woodman, PH.D., an analytical chemist of New York who has a large *clientele* in the India-rubber trade.

=The Joseph Dixon Crucible Co. (Jersey City, N. J.) are said to have received lately a large contract for graphite, etc. for the Australian market.

=The rubber reclaiming plant at the Millville factory of the Woonsocket Rubber Co., on August 16, was closed indefinitely. The plant had been closed once before, but was started again after the burning of the reclaiming plant of the United States Rubber Co., at Naugatuck, in February, 1898.

=Myer J. Herman, agent for the Brockton (Mass.) Rubber Scrap Co., has the New England selling agency for the Eureka Cement Co., of Newark, N. J. The trade will be canvassed by C. G. Hearty, of Brockton. The Brockton company invite inquiries for their prices on rubber cement balls.

=Charles Taylor, representing the Diamond Rubber Co. (Akron, Ohio), while in Pittsburgh recently, was quoted by a newspaper there as saying: "I have received some of the largest orders upon this trip that I have ever booked in Pittsburgh. The market is exceptionally strong for belting, and I find that the general use of automobiles has given an impetus to our tire business. The automobile seems to have a firm hold in Pittsburgh."

=The Bridgeport Elastic Fabric Co. have been incorporated, at Bridgeport, Connecticut, to manufacture elastic and non elastic webbing fabrics, with Arthur J. Moore, president; Samuel Lownds, secretary; and Arthur Liggins, treasurer. The company occupy a rented factory building but own the machinery used.

=The sale is reported of the factory of the Model Rubber Co. (Woonsocket, Rhode Island), to Fred. L. Smith, proprietor of the Byfield Rubber Co. The Model Rubber Co. was organized some four years ago by men who had been employed by the Woonsocket Rubber Co., to make rubber footwear. They met with small success and the factory has not been in operation for nearly a year.

=The Goshen Rubber Works (Goshen, Indiana) have equipped a rubber reclaiming plant, which is now in operation.

=The Methuen Rubber Co. (Methuen, Massachusetts) have been so successful in the marketing of their electrical specialties that they are planning to enlarge their factory and add considerable new machinery.

=Orville L. Leach, on August 22, petitioned for a temporary receiver for the Emery Tire Co. (Providence, Rhode Island), claiming that the company are indebted to him.

=The Electric Vehicle Co. (Hartford, Connecticut) have added a new line of gasoline motor vehicles to their production, for which purpose they have acquired all of the inventions relating to automobiles of Fred A. Law, of Hartford, who becomes engineer of the company's gasoline department.

=C. M. Woodward, a well known manufacturer of smaller mechanical goods, in Boston, will take charge of that line of work for the Plymouth Rubber Co. (Stoughton, Mass.)

=Winslow H. Chadwick informs the trade that from this date he will be located at No. 292 Devonshire street, Boston, as New England selling agent for the Empire Rubber Manufacturing Co. (Trenton, New Jersey.)

=The Manhattan Rubber Manufacturing Co. (No. 18 Vesey street, New York) are arranging to engage in the manufacture of solid rubber vehicle tires, which will be marketed under two brands—"Manhattan" and "Fulton."

BOSTON RUBBER CO. OF MONTREAL.

THE factory of the Boston Rubber Co. of Montreal, Limited, (St. Jerome, Quebec), is at present being run under the direction of Mr. John J. McGill, pending probable action of changing the corporate title of the company. It will be remembered [see THE INDIA RUBBER WORLD June 1, 1902—page 302] that the Montreal company won a suit brought against them in the Dominion exchequer court, by the Boston Rubber Shoe Co., to enjoin them from using the word "Boston" in marking their rubber footwear, but on the case being appealed to the supreme court, a decision was given against them.

PERSONAL MENTION.

DAVID WILLIAMS CHEEVER, M. D., LL. D., who was elected recently to the board of overseers of Harvard University, is a brother of the late John H. Cheever, the rubber manufacturer. Dr. Cheever has been a member of the faculty at Harvard for half a century, being now professor of surgery *emeritus*.

=Carl Otto Weber, PH.D., of Manchester, England, an expert in the chemistry of rubber who now has in press a work on the nature of vulcanization, was a recent visitor to the offices of THE INDIA RUBBER WORLD, having just returned from Central America, whither he went to study problems connected with the cultivation of India-rubber.

=Mr. Ed. O. Kramer, of Antwerp, who has been for three years in hitherto unexplored rubber fields in Peru, was a recent visitor to the offices of THE INDIA RUBBER WORLD.

=Messrs. Max Lowenthal, of New York, and Otto Meyer, of Boston, are spending a couple of weeks in the Adirondacks, at Lake Placid.

=Mr. R. Eccleston Gallaher, secretary of the New York Insulated Wire Co., has lately been at Thousand Islands, where he recuperated from a serious attack of gastric fever.

=Mr. Amadée Spadone, president of the Gutta Percha and Rubber Manufacturing Co. (New York), is ending his summer vacation at Saratoga Springs, where a family reunion occurred on the occasion of his birthday, on August 29.

=Mr. R. E. Hotchkiss, superintendent of the Walton works of the Liverpool Rubber Co., Limited (Liverpool, England), accompanied by his wife, spent his August vacation in Ireland. On September 1 Mr. Hotchkiss begins his third year as superintendent of this branch of the Liverpool Rubber Co.

=Mr. James Hardman, president of The Hardman Rubber Co. (Belleville, New Jersey), is spending his vacation at Lake George, New York.

=Mr. C. J. Bailey, of C. J. Bailey & Co., Boston, is spending the heated term at Monument Beach, Buzzards Bay, Massachusetts.

=Mr. George P. Whitmore, secretary of the Boston Belting Co. (Boston), is spending his vacation at Squirrel Island, Maine.

=Mr. H. N. Towner, of the Memphis, Tennessee, rubber trade, was a recent visitor to New York and Boston, his trip embracing also Montreal and Chicago.

PERSONAL NOTES FROM AKRON, OHIO.

BEFORE he last left for Europe, Mr. O. C. Barber, whose name is familiar in connection with The Diamond Rubber Co., sent a check to the Akron Poor department, which was used at his suggestion, for giving a picnic to 125 aged and infirm men and women.

=Colonel George T. Perkins, president of The B. F. Goodrich Co., is erecting a summer residence on Perkins Hill, within a stone's throw of "Perkins manor," the home of his father, the late Colonel Simon Perkins, "Father of Akron." The locality is already the residence of Messrs. C. C. Goodrich, R. T. Marvin, and B. G. Work, and has gained the local soubriquet of "Rubber Hill."

=Vice President A. H. Marks, of the Diamond Rubber Co., left for Maine on August 14, to spend several weeks fishing and touring in his automobile.

=Secretary W. L. Wild of The India Rubber Co. spent the latter part of August at the meeting of the Fraternal Congress, in Denver, Colorado. Mr. Wild was until July president of the National Union, and takes a lively interest in fraternal societies in general.

=J. W. Rhodes, for many years telegraph operator and utility man in the offices of The B. F. Goodrich Co., has removed to Zanesville, Ohio, to become ticket agent for the Baltimore and Ohio railroad.

=The will of the late Mrs. Helen Wright, of Chicago, widow of Rufus M. Wright, of Morgan & Wright, bequeaths \$16,000 in cash to relatives in Akron. The total of cash bequests made by Mrs. Wright is \$105,000.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A local newspaper publishes a "story" to the effect that a strenuous effort will be made to organize a union among the rubber workers of Akron. Except for two or three short lived affairs, there has never been a rubber workers' union in Akron, and the tire makers are the only workmen who ever organized. Even when their union was at its strongest, it never included nearly all the tire workers, and enthusiasm among its members was lacking. Talks with union labor leaders here disclose the fact that they have no hope of ever organizing such unions among the Akron rubber workers as exist in some other local industries. One reason, doubtless, is that a considerable number of the employes of the different rubber factories are stockholders in a small way, and special efforts are made to take care of those men whose work shows that they have the interest of their employers at heart. A policy of liberality is pursued by manufacturers in the matter of holidays, and there is a general friendly feeling between the workmen—especially the skilled class—and their employers. The B. F. Goodrich Co. set the pace in this matter years ago, when theirs was the only rubber factory in Akron. It is not, perhaps, customary for manufacturers to close their works for a half hour that the employes may see a passing circus parade, but that has been done more than once. A man usually is posted along the line of march to give notice of the parade's coming. Once a small boy who was set to perform this task, in his excitement announced the parade's approach a full hour before it appeared. The result was an unusually long shutdown, and a superintendent much put out. The dinner rooms and other conveniences for employes are also a connecting link of friendliness between employers and employed. It can be said that the local rubber manufacturers have the good will of organized labor here, and they have been liberal contributors for the Labor Day celebrations.

Half a dozen rubber manufacturers with whom THE INDIA RUBBER WORLD correspondent has talked are agreed in the belief that the present low prices of crude rubber are not likely to be permanent, and they point to advances during the past month in support of their position. There has been no reduction in the prices of rubber goods because of the decline in the cost of crude rubber from the prices prevailing last year, and the manufacturers believe that any such reduction will be unwise. There has been, however, a tendency to use a better quality of rubber in general products during the prevalence of low prices for crude gum. But the difficulty of advancing prices of products which have once been reduced is quite an effectual barrier against a reduction in selling prices at this time because crude rubber costs less than formerly. Besides, it is felt that the constantly increasing demand for rubber goods, and the certainty as time goes on that new uses will be found for rubber, will make necessary an advance in the cost of raw material.

The Camp Rubber Co. were incorporated July 27 under the laws of Ohio, with \$50,000 capital, and are pushing work toward getting under way to manufacture a general line of soft rubber goods. The factory will be located at Ashland, Ohio, where a bonus was given to the company, the city of Ravenna having also tried to secure the location of the factory. The officers are: H. B. Camp, president; L. W. Camp, vice president; Charles E. Campbell, secretary and superintendent; T. W. Miller, treasurer and general manager. Mr. Miller is also general manager and Mr. Camp is president of The Faultless Rubber Co., of Akron. Superintendent Campbell has been for

several years with The B. F. Goodrich Co. The company expect to begin operations in September.

The annual meeting of the Firestone Tire and Rubber Co. was held on August 15, the following officers being elected: Will Christy, president; J. A. Swinehart, vice president; Dr. L. E. Sisler, secretary and treasurer; L. H. Firestone, general manager. The company have lately made two good tire contracts in South Africa, and General Manager Firestone states that the tire trade is first class. Vice President Swinehart, who has been in Europe on business since April, is expected home on September 2.

The Alden Rubber Co. have prepared plans for a considerable addition to their factory at Barberton. The company are receiving good orders for their rubber floor tiling, which has been placed in some large new buildings in New York city.

The People's Hard Rubber Co. lately added seven more vulcanizers to their plant, and now employ 275 people and are running night and day. They are active in the electrical supplies' branch, and also in stationer's supplies.

The unfavorable weather—much rain and mud—has affected the tire trade this season, and there has been a quiet in bicycle and solid tire lines which it is believed, now that the prospects seem to point to a dry pleasant fall, is about to disappear. A good autumn and winter business is looked for by the manufacturers in Akron. The weather has not had any noticeable effect, however, upon automobile tires, which have been in such brisk demand that, had the summer been more favorable, the manufacturers might have found it a difficult matter to handle their orders.

The Pure Gum Specialty Co., of Barberton, on August 10, filed with the secretary of state of Ohio a certificate of increase in their capital from \$20,000 to \$75,000. Treasurer W. A. Johnston states that this increase is to provide for an extension of present lines, including a large addition to the factory, although an addition has only recently been completed.

The Tuscarora Rubber Co., at Beach City, Ohio, is about to emerge from the receivership into which it was cast last May by a disagreement among certain stockholders. W. B. Stewart, of Canton, Ohio, the receiver, has been operating the plant, and, it is said, successfully.

The India Rubber Co. have lately established a distributing depot in Chicago at No. 540 Wabash avenue. John H. Merrell, formerly western sales agent of the company, is in charge, with Frank A. Paulin as his assistant.

The twenty-first annual picnic of The B. F. Goodrich Co.'s employes, at Silver Lake, on Saturday, August 2, was the largest in the history of the company. The attendance was estimated at 8000, including employes of the Akron factory of the American Hard Rubber Co. Everything was free to the employes and their families. There was a varied program of sports, in charge of J. F. McGuire, C. M. Woodruff, J. W. Dunn, William Neal, and E. A. Coken. The principal event was the baseball game between the office and factory teams, the latter winning a \$10 prize, 7 to 5. The Hard Rubber workers won a \$10 prize in a tug-of-war with the Goodrich men.

The employes of The Alden Rubber Co. held their annual picnic at Silver Lake, on Saturday, August 9. A feature of the day was a baseball game between the Alden employes and those of the People's Hard Rubber Co. Both teams wore fancy uniforms obtained for the occasion, the suits of the People's team bearing in large characters the trade mark of the company. The latter team won by a score of 12 to 0.

Charles E. H. Fayerer-Hickey, for sometime a traveling man for The Goodyear Tire and Rubber Co., has been made assistant manager of the company's motor tire department.

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES are higher, all through the list. The advance on Pará sorts is from 4 to 6 cents per pound, on Centrals 1 cent, and on the different African grades from 1 to 6 cents. Last month, in reporting on the market, scarcely a change was made from the quotations of the preceding issue, whereas in the figures below a change is recorded in every item except Accra flake. At the beginning of August, manufacturers, while experiencing a good demand for rubber goods, were still "bearish" in the market for crude. Holders, however, made no pressure to sell, and prices have gradually advanced to the figures presented below. Prices have advanced correspondingly in the European markets, where a good demand is reported, especially for Pará sorts. While receipts at Pará continue larger than in any previous year, there is no accumulation of stocks at that point. The receipts at Pará from July 1 to August 23 amounted to 2170 tons (including 310 tons of Caucho), against total receipts to the end of August last year of 2150 tons. This increase of production of Pará, however, would not be sufficient to depress the market, in view of the active demand for consumption and the fact that for many purposes Pará grades have been preferred to African since the decline of prices which began with the first of the year. Manufacturers have entertained no idea of lowering prices of their products—first, because they have anticipated an advance in the cost of crude rubber, and secondly, because of the higher cost recently of the other raw materials of their industry, particularly of cotton duck, which has increased at least 5 cents a pound within two years. It is of some interest to the crude rubber trade that the Hamburg-American line has placed a steamer in the Amazon river and New York trade, which will tend to competition in freight rates. The incorporation is reported of the The American Crude Rubber Co., under New Jersey laws, with \$2,000,000 capital, but this appears to have for its object the exploitation of rubber on the Orinoco.

New York quotations on August 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	71 @72	Tongues.....	43 @44
Islands, fine, old....	75 @76	Sierra Leone, 1st quality	62 @63
Upriver, fine, new....	75 @76	Benguella.	48 @49
Upriver, fine, old....	78 @79	Cameroon ball.....	43 @44
Islands, coarse, new....	47 @48	Flake and lumps.....	31 @32
Islands, coarse, old....	@48	Accra flake.....	17 @18
Upriver, coarse, new....	@61	Accra buttons.....	44 @45
Upriver, coarse, old....	62 @63	Accra strips.....	48 @49
Caucho (Peruvian) sheet	52 @53	Lagos buttons.....	44 @45
Caucho (Peruvian) ball	56 @57	Lagos strips.....	47 @48
CENTRALS.		MADAGASCAR, PINKY....	
Esmeralda, sausage....	51 @52	Madagascar, black....	
Guayaquil, strip.....	48 @49	EAST INDIAN.	
Nicaragua, scrap....	50 @51	Assam.....	53 @54
Mangabeira, sheet....	43 @44	Borneo.....	33 @44

Late Pará cables (August 25) quote:

Per Kilo.		Per Kilo.	
Islands, fine.	4\$550	Upriver, fine....	5\$300
Islands, coarse.....	2\$450	Upriver, coarse.....	3\$500

Exchange, 3 1/32d.

Last Manáos advices (August 29):

Upriver, fine.....	5\$200	Upriver, coarse.....	3\$500
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Exchange, 12 3/32d.

NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER.)

1902.		1901.		1900.	
Upriver, fine.....	70 @72	84 @87 1/2	93 @97		
Upriver, coarse.....	55 @56 1/2	61 @63	67 @71		
Islands, fine....	67 @69	82 @85	87 @93 1/2		
Islands, coarse.....	44 @46	46 1/2 @48 1/2	51 @54		
Cametá, coarse.....	46 @48	50 @55	54 1/2 @59		

In regard to the financial situation Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During July, money rates having stiffened considerably on call and on collateral time loans, there has been less demand for paper, and it has been confined almost entirely to out-of-town banks; rates ruling at 5 @ 5 1/2 per cent. for the best rubber names, and 6 per cent. for those not so well known."

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.		Total		Total		Total	
		Fine and Medium.	Coarse.	1902.	1901.	1900.	
Stocks, June 30.....	tons	408	5 =	413	879	603	
Arrivals, July.....		311	207 =	518	448	308	
Aggregating.....		719	212 =	931	1327	911	
Deliveries, July.....		369	260 =	569	603	413	
Stocks, July 31.....		350	12 =	362	724	498	

	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, June 30... <i>tons</i>	65	37	160	1406	1025	1475
Arrivals, July...	1060	1115	760	369	605	675
Aggregating.....	1125	1152	920	1775	1630	2150
Deliveries July.....	1085	937	550	750	700	650
Stocks, July 31...	40	215	370	1025	930	1500

		1902.	1901.	1900.	
World's supply, July 31.....		2958	2536	2651	
Pará receipts, July.....		1060	1115	760	
Pará receipts of Caucho, July.....		250	145	100	
Afloat from Pará to United States, July 31..		449	35	98	
Afloat from Pará to Europe, July 31.....		600	632	155	

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic.....	7 1/4 @ 7 3/8
Ditto —Foreign.....	6 1/4 @ 6 3/8
Pneumatic Bicycle Tires.....	6
Solid Rubber Wagon and Carriage Tires.....	7
White Trimmed Rubber.....	9
Heavy Black Rubber.....	4 1/4
Air Brake Hose.....	2 3/4 @ 2 7/8
Fire and Large Hose.....	2 1/2
Garden Hose.....	1 1/2
Mattings.....	1

United States Rubber Imports.—By Fiscal Years.

EXCLUSIVE of Gutta-percha and Pontianak:

FROM—		1899-1900.	1900-01.	1901-02.	
United Kingdom.	pounds	8,611,061	7,461,673	6,114,107	
Germany.....		1,750,498	1,673,234	1,653,678	
Other Europe.....		6,626,648	7,854,828	7,779,574	
Central America.....		1,428,224	1,279,099	1,121,399	
Mexico.....		420,612	297,691	263,909	
West Indies.....		12,291	45,578	63,094	
Brazil.....		28,175,787	34,900,198	31,532,700	
Other South America.....		1,642,191	1,255,041	1,285,792	
East Indies.....		643,793	466,056	558,621	
Other countries.....		66,033	42,131	40,607	

Total.....	pounds	49,377,138	55,275,529	50,413,481	
Value.....		\$31,376,867	\$28,455,383	\$25,151,559	
Average per Pound.....		63.54 cents.	53.28 cents.	49.89 cents	

EXPORTS of Rubber.....		3,751,698	3,305,945	2,378,353	
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Net Imports....	pounds	45,625,440	51,969,548	48,035,128	
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Balata.

LONDON, August 15.—At auction 17 packages Venezuelan block bought in at 2s. 1d.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The month began with a tendency toward firmer prices in crude rubber, which has become more pronounced as the month has advanced. With the end of the summer vacations, new life has been imparted to business in general, and the quantities of rubber that have been taken out of the market indicates that the rubber industry is again active. The very satisfactory results of the last Antwerp sales tended to strengthen the Hamburg market for Congo sorts. As for Pará rubber, fine old hard cure has been in brisk demand, and 6.85 marks readily paid; the closing prices were even higher, sales being made at 6.90 marks. The demand for new arrivals was less important, with sales at 6.70 @ 6.75. Fine Mollendo forward sold at 6.50 @ 6.55. There were few offers for Bolivian and owners have not pressed to sell. Very large lots of Mozambique, Massai, and Kamerun rubber have been taken out of the market. Sales have been made at the following prices, in marks per kilogram:

Mozambique balls, finest red.....	6.55@6.60	Massai niggers, fine red.....	5.80@5.85
Mozambique balls, fine red.....	6.25@6.40	Batanga balls.....	3.80@3.85
Mozambique balls, fine.....	5.80@5.90	Adeli balls, red.....	6.00@6.10
Mozambique balls, good.....	5.40@5.50	Mangabeira, Santos fine.....	4.60@4.65
Gambia niggers, fine white.....	4.30@4.35	Mangabeira, Bahia ordinary.....	3.30
		Colombian scrap, good	5.00@5.10
		Guatemala slab, good.	4.00

Hamburg, August 13, 1902.

London.

EDWARD TILL & CO., under date of August 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	130	142	140
{ Assam and Rangoon.....	11	63	31
{ Other sorts.....	398	522	486
Total.....	539	727	657
LIVERPOOL { Pará.....	1739	932	1486
{ Other sorts.....	775	1285	1499
Total, United Kingdom.....	3053	2944	3645
Total, July 1.....	3595	3128	3653
Total, June 1.....	3687	3502	3624
Total, May 1.....	3788	3597	3952
Total, April 1.....	3326	3522	3104
Total, March 1.....	3078	2989	1917
Total, February 1.....	2674	3129	1843
Total, January 1.....	2794	2901	1855

PRICES PAID DURING JULY.

	1902.	1901.	1900.
Pará fine, hard.....	2/11½ @ 2/11¾	3/6 @ 3/8	3/9½ @ 4/-
Do soft.....	2/10¼ @ 2/11½	3/7 @ 3/9	3/9½ @ 4/-
Negroheads, scrappy 2/3	@ 2/3¾	2/6½ @ 2/7½	2/10 @ 2/10½
Do Islands.....	1/10½ @ 2/1	2/0¾ @ 2/1½	2/10 @ 2/10½
Bolivian.....	3/- @ 3/0¼	3/8 @ 3/9	4/-

AUGUST 15.—There has been a much firmer market for a week past. Considerable business has been done at higher prices for nearly all Pará sorts, and there are not many sellers unless at a further advance. Sales at auction comprised fine hard at 3s. 1d. and soft at 2s. 11d. @ 2s. 11¾d. spot and near; Bolivian at 3s. ¾d. @ 3s. 1d. Peruvians in special demand and large sales of ball at 2s. 4d. and slab at 1s. 11¾d.; scrappy in more demand, and sales at 2s. 4d.; medium grades sell well and the auction to-day went off with good competition at much better prices, in many cases ½d. @ 1d. per pound. Mozambique: Of 556 bags 125 sold, good clean stickless sausage 2s. 6¾d., fair red ball 2s. 2d. @ 2s. 3d., ditto mixed unripe and heated 1s. 9d., low heated 1s. 6d., inferior sandy, and heated 11½d., small loose ball 1s. 7¼d.; Beira ball 2s. 5d.; Lamu ball, fair mixed green 2s. 2¼d.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sale on July 31 the following results were realized:

	Exposed.	Sold
Congo sorts..... kilos	238,078	229,429
Other sorts.....	12,752	6,982
Total.....	250,830	236,411

This result may be considered as satisfactory, the more so as prices show practically no change compared with the values of the preceding sale. The following prices were paid, in francs per kilogram:

	Valuation.	Paid.
10 tons Loporé I.....	7.15	7.20
18 " Upper Congo, small strips..	6.	6.02½
29 " Equateur.....	6.75	6.80
27 " Aruwimi.....	4.90	5.17½
22 " Uelé.....	5.75	@ 5.60
20 " Lower Congo thimbles.....	1.75	@ 2.30
32 " Mongalla strips.....	6.05	5.75 @ 5.92

A small sale by inscription will be held on August 22, when 112 tons, chiefly Kassaï sorts, will be exposed. The next regular sale will be held in the second half of September, when the quantity offered will be about 500 tons. Actual stocks here amount to about 750 tons. The total sales during July were about 585 tons.

C. SCHMID & CO.

Antwerp, August 14, 1902.

RUBBER ARRIVALS AT ANTWERP.

JULY 25.—By the *Philippeville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos	251,250
Do.....	(Société Anversoise)	62,810
Do.....	(Comité Spécial Katanga)	10,993
Do.....	(Société Isangi)	7,365
Société Coloniale Anversoise.....	(Société "La Djuma")	3,000
Do.....	(Cie. de Lomami)	27,300
Do.....	(Belge du Haut Congo)	59,617
Do.....	(Süd Kamerun)	6,000
Société A B I R.....		62,600
Comptoir Commercial Congolais.....		20,580
M. S. Cols.....	(Centrale Africaine)	4,200
Do.....	(Vegetaux Kassai)	12,100
Do.....	(Cie. Anversoise des Plantations du Lubefu)	18,000
M. S. Cols.....	(Société "L'Ikelemba")	800
Ch. Dethier.....	(Société Belgika)	18,000
Société Equatoriale Congolaise.....	(Société L'Ikelemba)	6,382
Cie. Commerciale des Colonies.....		4,000
Do.....	(Kassaienne)	13,000
Société Agricole et Commerciale de l'Alima.....		5,353
Société Coloniale du Baniembe.....		1,290
W. Mallinckrodt & Co.....	(Alimaïenne)	4,127
Comptoir des Produits Coloniaux.....	(Cie. de la N'Goko)	1,300
L. & W. Van de Velde.....	(Comptoirs Congolais Velde)	11,000
Evrard Havenith.....	(Alimaïenne)	3,500
Soc. An. pour le Commerce Colonial (Est du Kwango)		6,000 620,567

IMPORTS FROM PARÁ AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

August 1.—By the steamer *Dominic*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York Commercial Co.....	110,800	13,900	49,800	100=	174,600
Boston Rubber Shoe Co.....	1,000	.....	20,500	48,000=	69,500
United States Rubber Co.....	16,500	1,800	1,200	24,200=	43,700
A. T. Morse & Co.....	11,200	3,600	22,000	.....=	36,800
Reimers & Co.....	9,300	2,500	26,400	.....=	38,200
William Wright & Co.....	.....	.....	5,100	.....=	5,100
G. Amsinck & Co.....	.....	200	.....	3,400=	3,600
Total.....	148,800	22,000	125,000	57,000=	371,500

August 12.—By the steamer *Hilary*, from Manáos and Pará:

A. T. Morse & Co.....	60,900	16,400	60,400	.....=	137,700
United States Rubber Co.....	91,800	17,000	8,900	6,300=	124,000
New York Commercial Co.....	63,000	15,600	41,200	600=	120,400
Reimers & Co.....	62,800	4,000	34,400	.....=	101,200
William Wright & Co.....	8,000	700	29,700	.....=	38,400
Boston Rubber Shoe Co.....	.....	.....	13,900	4,400=	18,300

EAST INDIANS—Continued.

Aug. 15.—By the <i>Afghanistan</i> =Singapore:	
Reimers & Co.	510,000
William Wright & Co.	300,000 810,000

GUTTA-PERCHA AND BALATA.

POUNDS.	
Aug. 12.—By the <i>Moltke</i> =Hamburg:	
To Order	6,500
Aug. 6.—By the <i>Pennsylvania</i> =Hamburg:	
To Order	7,500
Aug. 11. By the <i>Queensland</i> =Singapore:	
George A. Alden & Co.	1,400
BALATA.	
July 29. By the <i>Southark</i> =Southampton:	
Henry A. Gould & Co.	4,500
July 31.—By the <i>Prins Willem II</i> =Trinidad:	
G. Amsmek & Co.	1,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

	POUNDS.	VALUE.
Imports:		
India-rubber	2,747,595	\$1,412,667
Gutta-percha	39,062	11,502
Gutta-jelutong (Pontianak) ..	1,855,308	39,968
Total	4,632,972	\$1,464,137
Exports:		
India-rubber	27,888	\$14,785
Reclaimed rubber	88,974	11,420
Rubber Scrap Imported	3,418,737	\$167,271

PORT OF NEW YORK—JULY.

	POUNDS.	VALUE.
Imports:		
India-rubber	3,111,103	\$1,335,764
Gutta-percha	22,028	13,896
Gutta-jelutong (Pontianak) ..	854,224	24,017
Total	3,987,355	\$1,373,677
Exports:		
India-rubber	38,741	\$21,972
Reclaimed rubber	48,781	7,218
Rubber Scrap Imported	2,878,755	\$170,324

BOSTON ARRIVALS.

	POUNDS.
July 3.—By the <i>Saronia</i> =Liverpool:	
Reimers & Co.—Africa	16,159
July 5.—By the <i>Sagamore</i> =Liverpool:	
Reimers & Co.—Africa	11,032
July 5.—By the <i>Zeeland</i> =Antwerp:	
George A. Alden & Co.—Africa ..	37,718
July 16.—By the <i>Icarnia</i> =Liverpool:	
Reimers & Co.—Africa	11,478
July 26.—By the <i>Kroomland</i> =Antwerp:	
George A. Alden & Co.—Africa ..	17,713
July 29.—By the <i>Hanoverian</i> =Liverpool:	
George A. Alden & Co.—Africa ..	21,751
Total Imports	115,851

[Value, \$44,650.]

JULY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Prusse & Co.	11,560	1,360	28,860	—	41,780	46,920	4,930	13,220	—	65,070	106,850
Frank da Costa & Co.	7,448	3,933	92,840	24,473	128,694	65,860	4,094	28,440	—	98,394	227,088
Adelbert H. Alden	61,590	18,000	83,900	320	163,810	124,200	14,830	12,830	2,400	154,260	318,070
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	4,107	1,228	467	—	5,802	5,802
Kanthack & Co.	9,785	1,400	41	—	11,226	18,766	6,603	1,280	—	26,649	37,875
Neale & Staats	—	—	3,520	—	3,520	11,774	1,179	2,456	716	16,125	19,645
Denis Cronan & Co.	3,831	334	12,357	—	16,522	6,334	672	16,460	—	23,466	39,988
B. A. Antunes & Co.	—	—	—	1,702	1,702	—	—	—	—	—	1,702
R. Suarez & Co.	—	—	—	—	—	24,252	8,374	9,414	1,720	43,760	43,760
Pires, Teixeira & Co.	—	—	—	—	—	4,171	—	1,189	—	5,360	5,360
Direct from Iquitos	—	—	—	—	—	5,957	662	5,254	143,308	155,181	155,181
Direct from Manãos	150,134	29,152	30,740	52,385	262,420	58,592	11,729	10,680	40,248	101,249	363,669
Total for July	244,688	54,179	252,507	79,180	630,554	370,933	54,301	101,690	168,392	695,316	1,324,990
July, 1901	53,865	12,211	52,243	4,384	123,153	475,196	85,135	258,604	138,275	957,210	1,080,263
July, 1900	148,853	28,698	102,431	28,766	308,748	151,995	24,461	119,417	49,211	345,084	653,832

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1902	2,847,868	278,308	2,569,560	June, 1902	2,711,744	2,255,792	455,952
January-May	24,295,122	1,573,991	22,721,131	January-May	23,576,224	12,894,896	10,681,328
Six months, 1902	27,142,990	1,852,299	25,290,691	Six months, 1902	26,287,968	15,150,688	11,137,280
Six months, 1901	31,788,882	1,677,533	30,111,349	Six months, 1901	26,976,656	15,482,880	11,493,776
Six months, 1900	23,915,915	2,220,904	21,695,011	Six months, 1900	33,326,832	16,835,840	16,490,992
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1902	3,487,220	1,578,280	1,908,940	June, 1902	105,820	24,200	81,620
January-May	12,987,920	4,702,280	8,285,640	January-May	661,480	*51,040	*610,940
Six months, 1902	16,475,140	6,280,560	10,194,580	Six months, 1902	767,800	75,240	692,560
Six months, 1901	14,039,960	3,951,420	10,088,540	Six months, 1901	794,640	92,840	701,800
Six months, 1900	15,696,340	4,634,960	11,061,380	Six months, 1900	708,620	*Corrected figures.	
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1902	948,420	791,560	156,860	June, 1902	209,440	—	209,440
January-May	8,006,900	3,569,720	4,437,180	January-May	1,199,440	6,820	1,192,620
Six months, 1902	8,955,320	4,361,280	4,594,040	Six months, 1902	1,408,880	6,820	1,402,060
Six months, 1901	9,056,080	5,530,800	3,525,280	Six months, 1901	1,132,340	19,360	1,112,980
Six months, 1900	10,112,520	4,275,480	5,837,040	Six months, 1900	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

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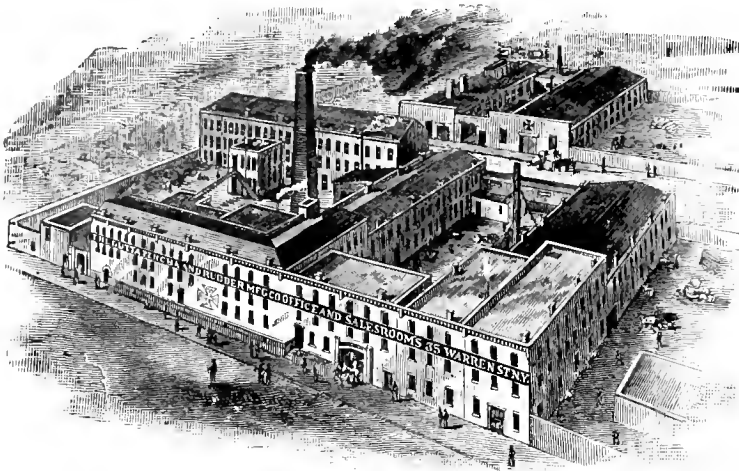
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OCTOBER 1, 1902.

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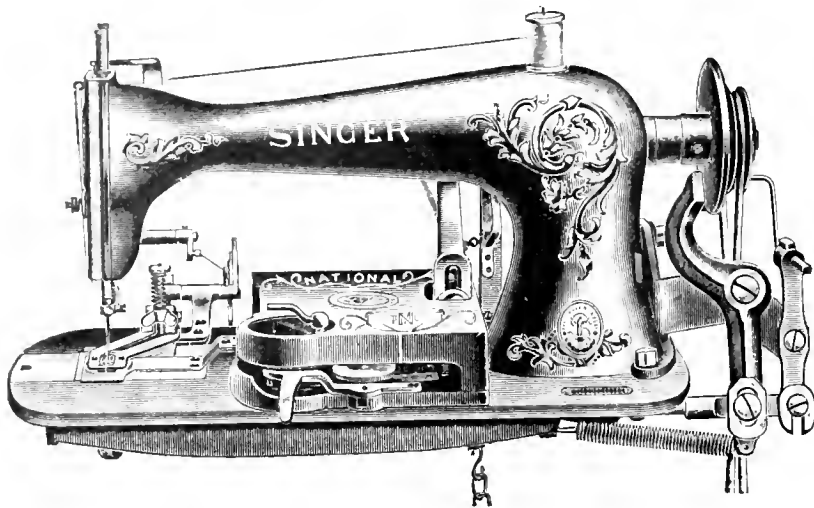
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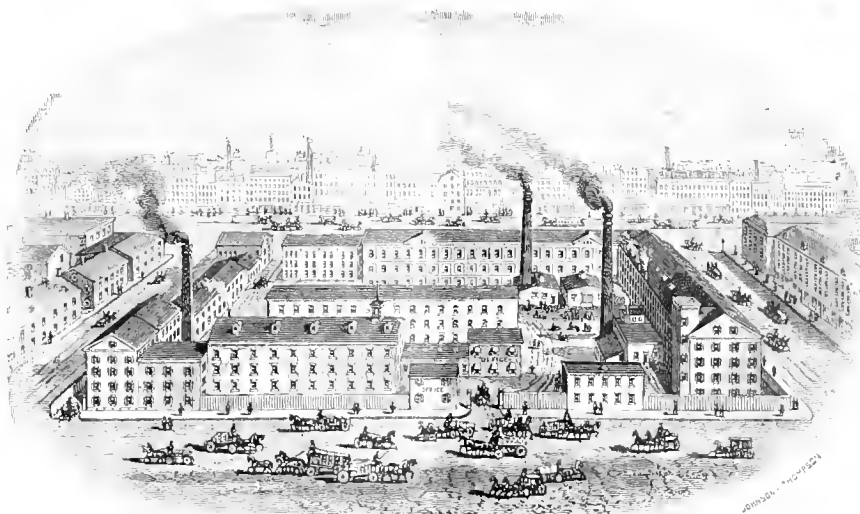
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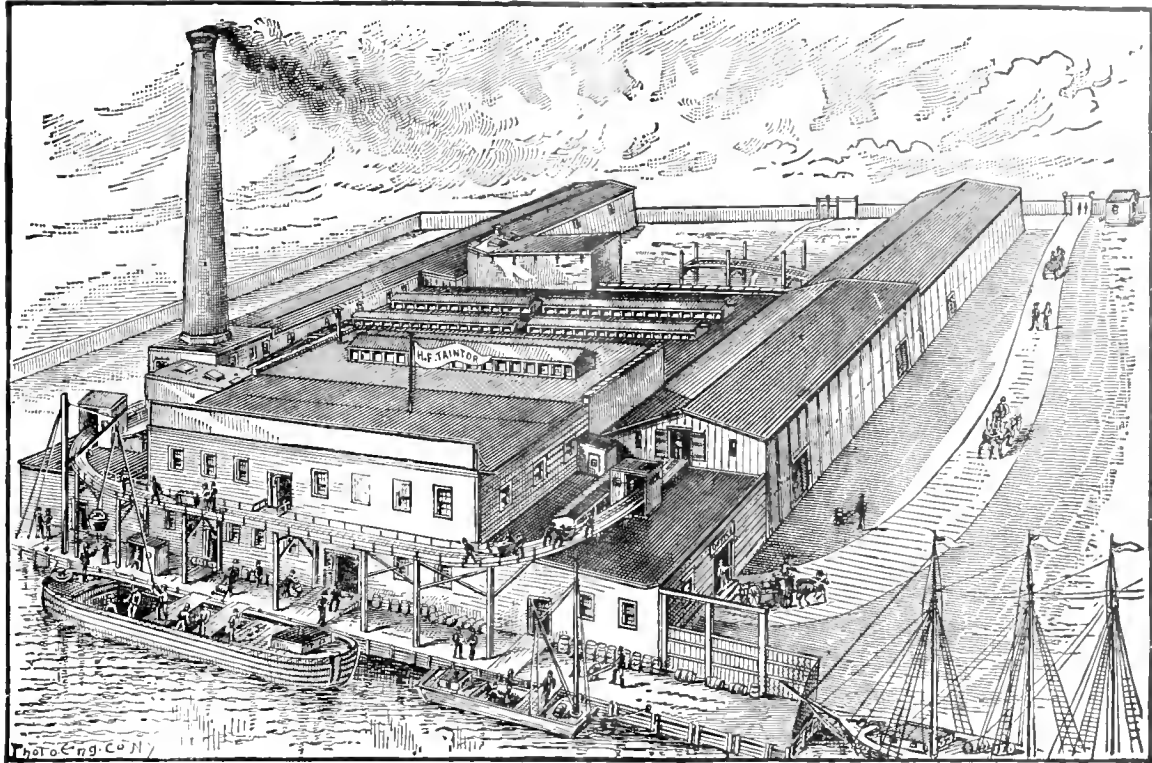
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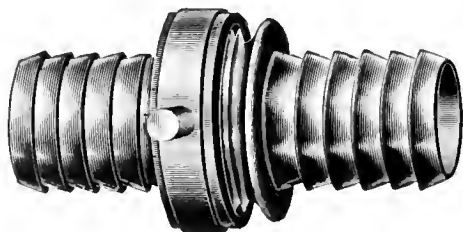
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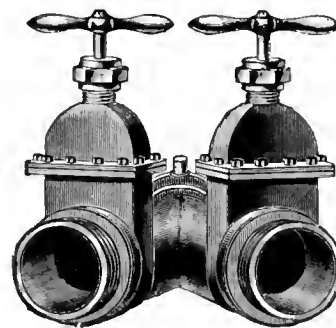
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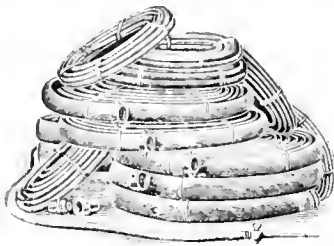
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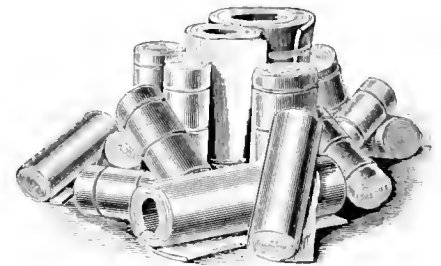
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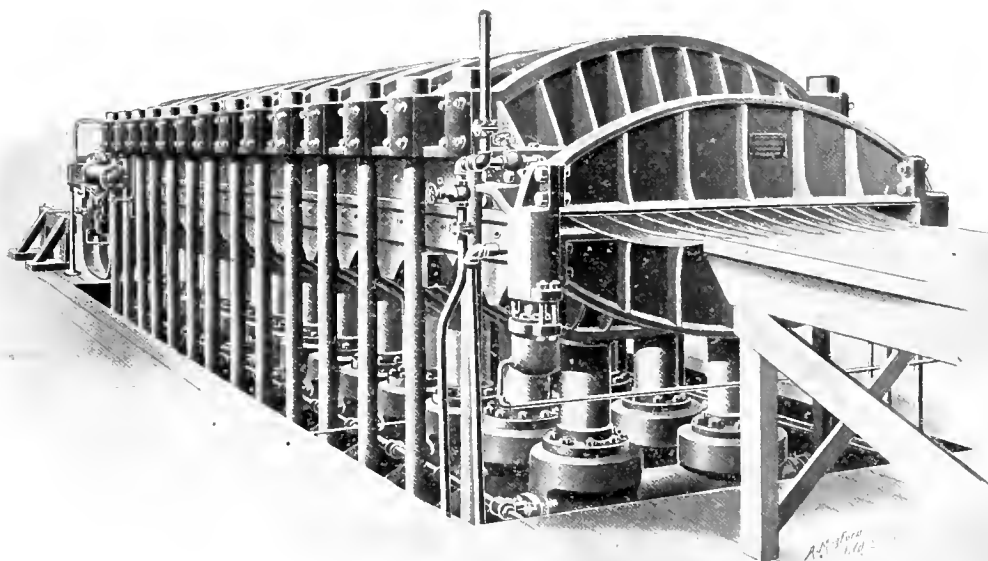
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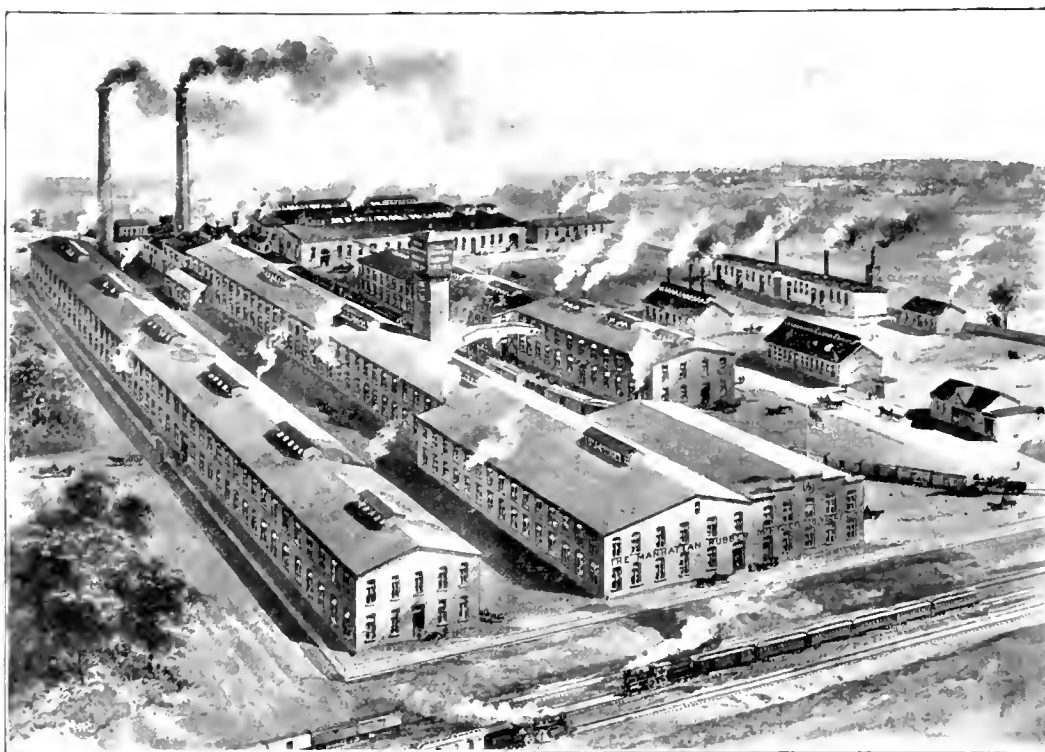
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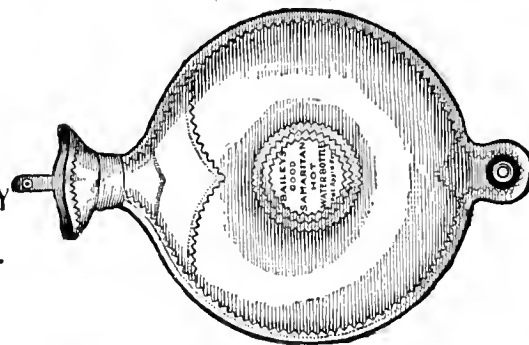
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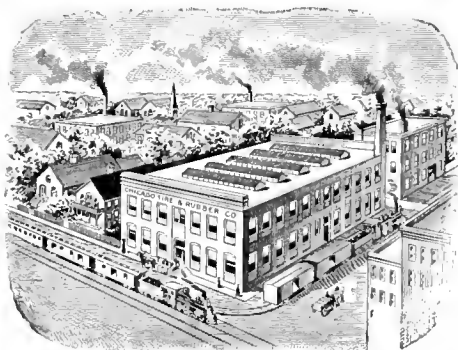
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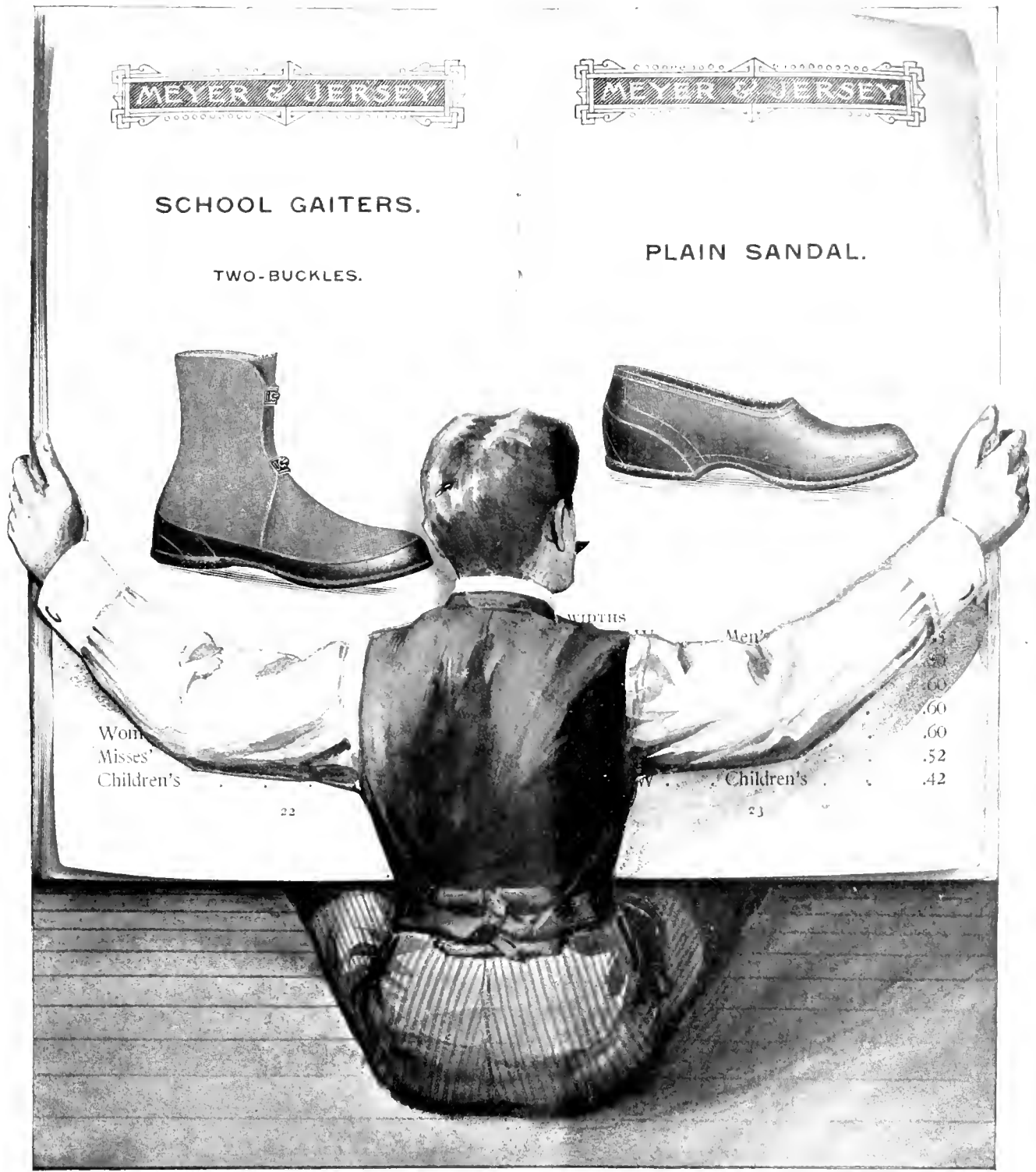
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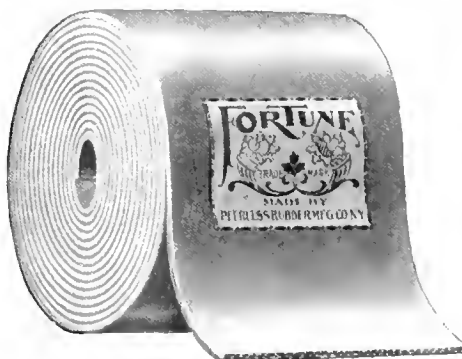
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GOOD INDUSTRY FOR THE RIGHT MAN.

AN inquiry reaches THE INDIA RUBBER WORLD from a cautious investor who desires, before putting some money into a rubber factory, a list of the failures in this industry during the past ten years, and the causes of such failures. The list is not long enough, or the liabilities large enough, to discourage any but the most timid capitalist. Judged alone by the absence of failures, the manufacture of rubber goods should appeal more strongly to the man with money to invest than any other industrial field. We have looked over the list of rubber factories advertised in the first issue of THE INDIA RUBBER WORLD, thirteen years ago this month, and only one or two of the whole number are to be marked as failures. There have been reorganizations, changes due to deaths, consolidations, and the like, and some of the firm names then in use no longer appear in the trade. But with few exceptions the businesses are still carried on—in most cases with more capital, with larger and better equipment, bigger production, and bigger profits.

The demand for rubber goods has grown with the increase in population and increased requirements of comfort and convenience in modern life, so that several rubber factories not in existence in 1889 have grown into large and profitable establishments, and no doubt many still newer plants will attain a similar development. In a few notable cases profitable businesses have been wrecked temporarily by extravagant management or the misuse of funds by trusted employes, but with new hands in control the factories have been continued in operation, affording proof of the solid foundation of the industry as a whole. There have been more changes in the list of mackintosh and rubber clothing factories than in all the other branches of the industry combined, but most of the concerns that have come to grief in this branch were garment makers rather than rubber manufacturers, and hence do not count.

Our correspondent asks particularly what companies making rubber tires alone have failed. There never have been many factories making tires exclusively, and the only failures in this class have been of some small bicycle tire concerns, financially weak from the start. Some of the strongest rubber companies probably found their bicycle tire business unsatisfactory, and most of them dropped this branch as soon as the "boom" in the bicycle trade showed signs of collapse. The vehicle tire trade, however, has become more important, as a whole, than the bicycle tire trade ever was, and promises to be more permanent, and most of the companies fitted to make such goods are taking on this line.

As we have said above, the record of failures in rubber is not a discouraging one. But it doesn't follow that profits are certain for everybody who may care to start a rubber factory. Most of the large rubber factories of to-day had small beginnings. The biggest beginning that was ever made in the way of a rubber factory was near Boston, when a rubber shoe plant was started with \$1,000,000 capital, and the result was the most complete failure that the industry in this country has ever known. Evidently it is

the man that counts. Some men have begun without capital and grown rich selling bananas—but they were fitted for the business and went about it in the right way. Any industry is a good one for the right man, no matter how many may have failed in it before him.

MR. ROOSEVELT AND THE TRUSTS.

THE President of the United States, in his public utterances on the subject of regulating the Trusts by law, does not seem to be able to suggest any very definite course of action. Yet some good may result from his addresses, in focusing popular attention upon certain phases of the subject, instead of everybody being left to consider the evils of Trusts from a different standpoint. One thing made plain by Mr. Roosevelt's published remarks is that the regulation of Trusts is not quite so simple a matter as the mathematical proposition $2 + 2 = 4$. Less than two years ago an aspirant for the presidency of the United States—who, by the way, was supported by nearly half of all the voters—had no hesitancy in announcing that, if he were elected, he would have Congress pass a law that would put an end to the Trust evil. Already it has become evident that the Congress, before it can enact any enforceable law for the control of corporations, must first get authority through an amendment to the constitution of the government. This step alone would require so much time that meanwhile many of the so called Trusts would have gone the way of all unsound business enterprises, while the others probably would outlive any present feeling of popular antipathy, just as the railway companies long ago ceased to be an object of attack of the agricultural voters of the great West.

While Congress is awaiting a change in the organic law of the land which will empower it to seize and control all corporate businesses, the people will have time calmly to consider who really is being hurt by the Trusts. Evidently not the manufacturing interests, for the Census shows how vast has been the increase in the number of factories and the volume of their products in the period during which all the anti-Trust agitation has arisen. Nor is it the factory employes, who were never before so numerous, never better paid, never able to buy so much with their wages. The consumers of manufactured goods—who might perhaps be supposed to be the worst sufferers—are getting better goods and lower priced goods than in any other era.

Who, then, is qualified to band together and form the backbone of an anti-Trust party on the ground of having sustained substantial injuries? It must be the investors in Trust securities. They have been hurt where anybody has been. Holders of the Bicycle Trust stocks, for example, lately have seen their shares decline in market value to less than 2 cents on the dollar. Some of them, perhaps, paid par for their certificates. No doubt they would like a government that would have protected them from such losses. But is the government of the United States going to say to the free citizens of this great country that a man shall not do what he likes with his own money? Must a force of salaried officials stand

guard over pocket books and bank accounts, and say to this citizen that he would better not buy shares in a biscuit trust or a plow trust or a chewing gum trust, or to another that he will regret it to-morrow if he buys a gold brick to day?

People have made mistaken investments in lands and gold mines and patents and manufacturing enterprises and trotting horses and a whole lot of other things ever since money was first invented, and are likely to continue to do so until every man's foresight is as good as his hindsight. Not all the governments that human agency can devise would protect an investor against lack of judgment in parting with his money. And yet this is the gist of the Trust problem when it is analyzed with a view to legislating on it.

THE BUSINESS OF GATHERING RUBBER.

OF all natural products which have become widely recognized as necessities among civilized peoples, India-rubber stands alone in that, with all the aids of modern industrial, commercial, and financial development, the means of securing this commodity have undergone little improvement, and the cost of securing it becomes greater rather than less. Other tropical products, with places of origin equally remote from the world's markets, have been rendered vastly more accessible or greatly reduced in price to consumers. While new rubber districts continue to be opened, in order to meet the constantly growing demand for the raw material, crude rubber now, as in the beginning, continues to be produced on a small scale, by unintelligent laborers employing primitive methods, and between the forests and such markets as Manáos and Pará or Antwerp a single lot may change hands half a dozen times before it comes within the control of the traders who supply the manufacturers.

There is little rubber in use to day which does not cost the manufacturer, at least, \$1000 per ton, and within recent years large quantities of the better grades have gone into consumption at a cost at the factory of more than \$2000 per ton. Naturally it has occurred to capitalists aware of these facts, that through operating on a large scale and by the introduction of economies under intelligent supervision, rubber might be produced at a cost so far below the prevailing prices for this material as to afford handsome returns on the capital invested. From time to time, THE INDIA RUBBER WORLD has chronicled the organization of a number of companies, having for their object the application of modern business methods to rubber gathering in the Amazon valley, but in every case has also been chronicled their lack of success, if not total failure.

In this connection a contribution to our columns this month by Mr. Ashmore Russan, an English gentleman who has had some interest in most of these companies, is of particular interest. Mr. Russan having invested his money, naturally has taken pains to inquire why he has not received any dividends. It is especially interesting to learn that he believes the rubber properties purchased by

these companies to have been substantially what they were represented to be, and besides that they are still capable of yielding large quantities of rubber. As for the failure to make any profits, Mr. Russan points to mismanagement as the cause only in part, and mismanagement can be remedied. But the principle obstacle seems to be certain conditions existing in the vast and sparsely settled and loosely governed districts in which the rubber trees grow, which, for the time at least, are most unfavorable to foreigners investing their money there. A recent example of this unfriendly feeling toward foreign enterprise has been the attitude of one Brazilian state toward the Acre concession project, the success of which, at least for the present, must depend upon the privilege of navigating the Brazilian watercourses which connect the Amazon with the Acre district in Bolivia. It would be surprising, however, if this latter condition should act as a permanent bar to the investment of foreign capital in the collection of a commodity so much needed as India rubber and the consumption of which is wholly outside of the countries of production.

But South America is not the only field in which rubber working under foreign supervision has proved less profitable than was promised by the promoters of companies organized for this purpose. On another page of this issue appears the annual report of a Belgian company formed to exploit rubber in the Congo Free State, by which it appears that last year the company, although actually collecting and selling 101 tons of rubber, closed the year with a loss. The same company, however, during two years preceding had earned a satisfactory profit, which would show that the case is not altogether hopeless. As for the large profits reported by some other Belgian companies on the Congo, it must be remembered that the state is largely interested in these companies, and that every official and every soldier in the rubber districts is required to do his utmost to induce the natives to gather rubber, from which results the stories of atrocities practised on the natives that come constantly from Africa.

That much remains to be learned of the proper treatment of rubber is suggested by still another article in this paper, by Mr. van den Kerckhove, of Antwerp, who insists that much of the rubber produced on the Congo finds a market at a price much lower than its original quality would warrant, on account of improper handling. After rubber has once been gathered it ought not to be difficult for its owners to enforce proper regulations for its care, and here again appears a ray of hope for the rubber collecting companies. With all the discouraging conditions, however, the collection of rubber continues to increase, and attention is directed to some figures we give elsewhere, showing a growth in the rubber exports from Bolivia of about eleven fold in eleven years. The total for 1901 was nearly 8,000,000 pounds, mostly of high grades, and this from a country scarcely known twenty years ago to contain rubber, and yet the most inconveniently situated country on the globe with regard to transportation.

An item of news published this month that will attract much attention relates to the negotiations of the United

States Rubber Co. — who consume more rubber than any other company in the world—for obtaining supplies of rubber direct from the producing countries, instead of buying through importing houses. This would involve the investment of part of their capital outside of the manufacturing field, and as it is the first time that a manufacturing company has made such a venture, and in view of the large scope of the plans under consideration, the experiment will be watched with great interest.

It will be seen from the foregoing that there are many problems connected with rubber yet to be solved, outside of those which daily confront the factory superintendent, the rubber chemist, and the inventor in the rubber field. These problems have an ultimate bearing upon every user of rubber in the world, and it is impossible that the sources of rubber should always remain less accessible to the people who require it than the sources of any other commodity in general demand. While the conditions do not appear propitious for the investment of large sums in tropical America and Africa, in charge, perhaps, of managers who have had no experience to fit them for such business, it does appear to us that a field offers for intelligent young men to make a study of rubber districts, of the present methods of work, of the possibilities of improvement, of the character of the natives and of the best means of dealing with them, with a view to becoming qualified to manage large rubber concessions. With qualified men available, there will always be a possibility of securing capital for working rubber, and, at the prices which promise to prevail for a long time to come, we still feel that good profits are possible from the more direct transition of rubber from the forest to the consumer.

ENGLISH VIEW OF AMERICAN INDUSTRY.

THE London *Saturday Review* recently devoted an article to the report of the United States industrial commission, and the unofficial "Reports to the British Iron Trade Association on American Industrial Conditions and Competition." The points of special interest which it finds in the first are the trusts and the railroads. From the facts contained in this report and from other sources of information, the *Review* concludes that in America "at present the industrial pyramid is resting on its apex," and it seems to hint a fear that this position cannot be righted except by something like a revolution.

Of more interest to American readers, however, is the British report, which seems from an incidental reference in the *Review* to have been compiled by a Mr. Jeans, who, it is said, "covers all subjects from the effects of tariffs and trusts to the comparative demerits of the English habit of taking alcohol at lunch and the American custom of constant cigar smoking." The point, out of all this bewildering variety, which draws the notice of the reviewer, is the superior efficiency of American workmen. The *Review* summarizes the statements of the report in this manner:

The greater intensity of labor in America is shown by the universal experience that nowhere are wages so high and the cost of labor so low.

This is due not to any inherent superiority in the American workman, but mainly to the different way in which men are handled, to better organization, and to the American national spirit of "hustle." "The typical American appears to live only to work, and to work at something that will be a life-long career of usefulness to himself as an individual, and to the community as interested in mechanical improvements and economies." The United States suffer most seriously in many respects from the absence of a leisured class, but the effect of this universal doctrine of work pervading all sections of the community must not be neglected if we wish to understand the rapid advance of commerce and industry in that country.

All of which is sufficiently amusing and not without suggestiveness.

WHERE RUBBER IS "MELTED."

IT cannot be recalled that THE INDIA RUBBER WORLD has ever professed to know everything about rubber, which fact may some day prove a source of no small satisfaction to the Editor. This thought is suggested just now by renewed references in print to the subject of *melting* India-rubber—something which we have insisted is never practised. It is not our intention to withdraw any previous remarks on this subject, for rubber is *not* melted in any process employed in any factory known to us in the new world or the old. Still somebody must be melting rubber, for an able contemporary which has appeared since the last issue of THE INDIA RUBBER WORLD says so. It prints an inquiry from a "subscriber" in South Carolina, in these words:

Will you let me know if the buying of old rubbers is overdone and where the purchasing of same is carried on? I have heard that the old rubbers are melted and used for different purposes and have a ready market. Is this so? Any information you can give me will be appreciated, as I want to look into the matter.

And the editor of our contemporary boldly makes answer—having perhaps in mind the reference to melting rubber in a recent United States census bulletin:

IT IS NOT OVERDONE.

The buying of old rubbers is in no way overdone. You can always find a ready market for them at the Rubber Reconverting Plant. Your information about old rubbers being melted, etc., is perfectly correct, and I have in mind a church congregation who collected old rubbers in sufficient quantities to build a new house of worship. The people who buy old goods can never get enough of them, as the demand for old rubbers is far in excess of the supply.

Now if you can find the Rubber Reconverting Plant, the secret will be unearthed. There is where rubber is *melted*. It must be one of the secret processes which give the Rubber Trust such an advantage over all competitors. But where is the Rubber Trust?

A SUGGESTION FOR PARA.

IT is not only the transgressor whose way is hard. The *aviador* keeps him company. Imagine, if you please, the delight of fitting out a hundred men with supplies for a season's rubber gathering, only to find at the season's end that half of them are dead, while half of the rest have deserted. Such an experience is likely to make a man charge the faithful survivors a high rate of interest on his advances. If reports are true, the *aviadores* have been affected in just this way.

It seems, however, that the difficulty is due to a wrong selection of laborers. A Peruvian planter who has meandered as far north as Denver, Colorado, has confided to his friends, in the hearing of a reporter of the *Post* in that city, that he suc-

ceeds in making money by getting apes to gather his harvest for him. To be sure, this voracious planter grows nuts and not rubber, but his plantation is on the Ucayali river, which is in a rubber region, and it would seem that he might be able to train his monkeys to do tapping for him.

The advantages of such laborers are obvious. They can climb up the trunk, and so tap much higher than a human *seringuero*, they are impervious to malaria, they will not run away. At least the Peruvian planter says they do not run away if only he goes out once in a while and fiddles for them. A well acclimated fiddler and two or three dozen monkeys seem to be the ideal force for rubber gathering. If only the Rubber Estates of Pará, Limited, had found that out soon enough, how different its record might have been! It may be that the ape is the key to unlock the labor problem of the Amazon valley.

The supply is at present somewhat limited, but perhaps the Peruvian planter could be persuaded to devote his time to training a few thousand monkey laborers. Incidentally, he could give lessons on his violin to intending fiddlers. Monkeys trained in such a fashion could be relied upon to endure much, and we should expect an immediate noticeable increase in the output of Pará rubber. Hurrah for the ape!

A CAREFUL READER OF THE NEWSPAPERS who thinks about the matter at all must often find himself impressed with the feeling that the rubber manufacturers are hopelessly lacking in progressiveness. Here they go on, buying more rubber year after year, and in most years paying higher prices for it. And yet for a good while past almost any newspaper would have pointed out how unnecessary is the expenditure of money for any such purpose. Here, for example, we read in the *New York Evening World* that "Corn rubber cannot be told by the layman from the South American rubber tree product," while "it can be sold for one-tenth of the price of the Pará rubber." Now since nearly all rubber goods are made for the use of "laymen," what is the use of buying high priced raw materials? The *New York* newspaper explains that this new product "is made of corn oil, which is treated with sulphur and baked in order to make 'real rubber' out of it," after which it can be used to make "rubber boots, bicycle tires, sheet rubber, waterproofing, rubber heels, linoleum—in fact, nearly all classes of rubber goods." The old foggy manufacturer who goes on making rubber boots and bicycle tires of Pará—or even African—rubber is likely to awake on some cold day to find his business captured by a progressive competitor who makes his goods of "corn rubber," at a cost of 6 cents a pound.

AT THE PRESENT SLOW RATE of getting after the Trusts on the part of the authorities and the law makers there is great danger that many of these iniquitous institutions will not survive long enough to suffer any legal penalty. Or will the legislators make laws retroactive in their application, to apply to Trusts that have existed as well as those which may be doing business when the laws are enacted?

INSTEAD OF BEING DISCOURAGED by the fall in rubber prices since January, the planters in Malaysia have decided that cheaper rubber will lead to a greater demand for their product, in which respect we think that they are right.

HAVING COMPLETED ITS THIRTEENTH YEAR of publication, THE INDIA RUBBER WORLD is able to say that, thus far, it has failed to observe any evidence of thirteen being an unlucky number.

WORKING RUBBER ESTATES ON THE AMAZON.

By Ashmore Russan (London).

I HAVE read with great interest the account of the interview with Mr. N. H. Witt, of Manaus, on the subject expressed in my heading, which appeared in the July number of THE INDIA RUBBER WORLD, and I may say at once that I agree generally with his views that the time has not yet arrived—if it ever will—when foreign companies will be able to compete with native producers, and successfully work Rubber properties in the great valley of the Amazon and its myriad feeders. Mr. Witt says that he has seen not a few failures; the present writer, unfortunately, has been a shareholder in several of the companies correctly alluded to as “failures” by Mr. Witt.

With regard to the Comptoir Colonial Français, referred to by that gentleman as having lost about \$2,000,000 in little more than a year's trading in rubber on the Amazon, I do not think the whole of that loss was incurred in Brazil. The Comptoir Colonial Français owned estates on the Congo in Central Africa—in French territory, and, I believe, also in the Congo Free State. Doubtless some of the \$2,000,000 was lost in Africa, but assuming that the company only lost half the amount (\$1,000,000) on the Amazon during about a year's trading, that result is bad enough, and discouraging enough, in all conscience.

I am more or less familiar with the history of, I think, the whole list of foreign rubber companies which have attempted to work rubber in Brazil and Bolivia, and I have before me at this moment copies of many of the documents which were placed before the Comptoir Colonial Français by the owners of the estates, in working which that company has come to grief. The vendors of the properties to the French company were Messrs. F. M. Marques & Co. of Pará, and the estates are situated on the river Javary, an affluent of the river Amazon, and on another smaller tributary in the same district.

According to the papers before me, the properties on the Javary and its affluents numbered twenty-seven, with 2500 *estradas* opened out and 250,000 trees (more or less) ready for tapping, the approximate area of the whole being given as 768,116,600 square meters, or about 300 square miles. This is believed to be one of the finest estates in the Amazon region. According to the documents, it comprised everything necessary in the shape of houses, stores, sheds (*barracoes*), etc., for the collectors. There were three steam launches—two of 40 tons and one of 10 tons; two iron lighters, and nine boats and canoes. All these adjuncts were apparently taken over by the French company. The amount of rubber produced from these estates is known to have been very large. I have before me the production for each year from 1891-92 to 1897-98. During the worst year (1891-92) the estates produced 215,927 kilos, and during the best year (1892-93), 348,920 kilos, the total for the seven years being 2,053,492 kilos, or 2,053 metric tons, an average of about 293 metric tons per annum, of the annual value, taken at the low average figure of £300 per ton, of £87,900, or, say, about \$439,000. I know of no reason why these figures should not be taken as correct.

I am able also to give a few extracts from a statement signed by F. M. Marques & Co., describing how they became possessed of the properties, giving the reasons for selling, and estimating the profits. These extracts, read in the light of the results, will, I think, assist the reader to form his own opinion as to the desirability of attempting to work such properties by

means of companies whose headquarters are established in foreign countries. The extracts are as follows:

Our trade on the Javary river dates as far back as 1888, when we began to work it up, not possessing at that time any properties or land of any kind. By degrees we bought with ready cash or by transfer contracts (mortgages) the India-rubber plantations which we now possess, but having insufficient capital to develop them thoroughly, we decided to transfer the same to some concern or person possessed of sufficient means to do so, and we feel sure that a return of 50 per cent. on the capital employed will be obtained, and even much more if the estates are properly worked. — — — With the exception of one trader we have the monopoly of the Javary and Curuçá (a tributary) trade; so that if the trader to whom we have alluded were bought up, a matter of no difficulty, the entire control of those rivers would be obtained. — — — To conclude we beg to state that our properties are of enormous extent, and are connected, a great advantage not easy to be met with, and we feel confident that if properly worked the revenue will be trebled in say three years.

The net profits are given in this statement as 19.73 per cent. on the turnover, in addition to which there is 10 per cent. commission on the gross value of the goods supplied for the keeping of the working staff. The document is very voluminous and I forbear from quoting any more, but it is at the Editor's disposal at any time. It represents the position on October 19, 1898, as stated by the owners.

The Comptoir Colonial Français was formed, I believe, in 1899, and got to work early in 1900. It is now, as Mr. Witt has pointed out, in bankruptcy. I will give my views as to the reasons for this unfortunate result further on.

But the Comptoir Colonial Français was not the first company formed to work rubber estates in South America. The earliest of which I have any knowledge was the Orton (Bolivia) Rubber Co., Limited, floated a year or two before the Comptoir Colonial Français. The properties lately belonging to the Orton company are situated on the river Orton, which is in the Acré territory, near Sir Martin Conway's concession, and only a few miles from the headwaters of the river Acré. The estates were the property of Dr. Vaca Diez and a partner. Diez came to Europe, interested some French financiers, and a company was formed under the company laws of Great Britain. A considerable amount of working capital was provided, and Vaca Diez, having enlisted the services of a number of *Basques** and others, returned to the Amazon, chartered a large steamboat at Pará, and started for his estates. I have conversed with more than one member of that unfortunate expedition. Somewhere about 200 European would-be rubber collectors left Pará for the estate; I have been told that only six reached it. Vaca Diez and the principal leaders were drowned in attempting to reach the property in a small launch by the Rio Madeira route. The only survivor was my informant. The large steamboat carrying the *Basques*, etc., never got to the Rio Orton at all, nor even, I believe, so far as the river Acré. The Orton (Bolivia) company was wound up a few weeks ago; the properties were, I understand, taken back by Dr. Vaca Diez's widow.

The next company formed in England was the Amazonas Rubber Estates, Limited, which was floated towards the end of 1897 or early in 1898, with a capital of £300,000, to work es-

* Natives of the Biscay provinces of Spain and the neighboring French provinces.

tates situated on the river Teffé, a tributary of the Amazon above the river Purús. This company has lost the whole of its working capital; it has never succeeded in getting a ton of rubber from its estates. Rubber cutters were taken there and buildings and stores erected, a steamboat purchased and shipped out, etc., but the actual collecting was never commenced. The company is still in existence, and, I believe, all hope is not yet abandoned.

Very soon after the formation of the Amazonas Rubber Estates, Limited—that is, early in 1898—the Rubber Estates of Pará, Limited, was formed with a capital of £350,000 to work estates with an area of over 284 square miles, situated in the "Islands," district of Anajas, state of Pará. These estates were acquired from the Visconde de São Domingos, who had been working them for many years. The number of full grown trees was estimated at 1,300,000, which number has scarcely been questioned. In the three years before they were taken over by the English company, the estates were declared to have produced 751 tons, an average of 250 tons per annum, of the annual gross value in Europe or the United States of over £90,000. I have no reason to doubt that these estates actually did produce the quantity of rubber given above, but the largest quantity which the English company ever succeeded in obtaining was 60 tons, during last season. After about £35,000 of the working capital had been lost during the two years following the formation of the company, the writer was asked to become a director and accepted. The working capital being lost, it was necessary to reconstruct the company, which was done on the basis of a capital of £37,500, the new company (The Brazilian Rubber Trust, Limited) taking over the properties and paying all liabilities of the old company. Since then, nothing that experience, heavily paid for in the past, could suggest, has been left undone. Every possible economy that could be thought of was urged upon the company's employes in Brazil, but the Brazilian Rubber Trust found itself unable to work the estates profitably; money still continued to be lost, though on a much smaller scale than in the past, and a few months ago the company decided not to remit any more money to Brazil, but to lease the estates to a Brazilian firm. This has been done, to the relief of every director of the company.

The history of the Belgian company, La Brésilienne, which purchased estates very near those belonging to the Rubber Estates of Pará, is similar to that of the other companies. It has come to grief more or less complete. I believe that all the before mentioned companies (and, I may add, all the companies that have been formed in Europe to work rubber estates in Brazil) have lost their working capital, and have either ceased to exist, or are in considerable difficulty. The company that really showed the best results was the Rubber Estates of Pará, which, as I have said, lost about £35,000 in the first two years of its existence, and even when reconstructed, never succeeded in making a profit.

Mr. Witt has set out the reasons pretty clearly. The directors and managers have very little knowledge of the conditions surrounding the trade, but in one case, had the company—The Rubber Estates of Pará, Limited—followed the advice of its first estates manager, it might have been successful, or at least, it would not have lost so heavily. This gentleman, however, had had eight years' experience of Brazil.

Most of the men who go out know nothing about the business. They do not know the language well, and have few facilities for learning anything of value. Indeed, it is not in the interest of the Brazilians to teach them anything, but, on the contrary, to pluck them and the companies they represent

of every leather. As Mr. Witt has pointed out, the collectors have to be imported. They mostly come from the state of Ceará, and the importation expenses are very heavy. Provisions have also to be imported, and instances have come before me of perishable foodstuffs consigned to an English company, being detained three months in the custom house at Pará. When cleared the goods were useless. This was of common occurrence some two years ago, but the customs' service has been improved since. The taxation is tremendously heavy; whether a profit is made or not, a company will be taxed anything from £600 upwards a year, that is, if its office is in a foreign country. If a company tries to grow its own foodstuffs, it will find it impossible to get labor. The natives will not work at agriculture of any kind. I am not aware that there is a farm, or anything approaching one, within a thousand miles of Pará. The men will only collect rubber, and unless the planter could pay them as much for agricultural labor as they can earn in rubber cutting, there is no possibility of getting them to work at the former. Mr. Witt has very ably pointed this out. He suggests the importation of coolies from India, but the British government would never permit it. He also refers to Chinese, a question which I have studied, as my company commissioned an agent at Singapore to make enquiries with regard to obtaining Chinese laborers from the Straits Settlements. They cannot be got from China, as was pointed out by Sir Halliday Macartney, of the Chinese embassy in London, to the writer, for the reason that China has no diplomatic or consular representatives in Brazil, and no Chinese subjects would be allowed to go. The Chinese in the Straits Settlements are mostly British subjects. They also would not be allowed to leave if the British government knew where they were going, and the only way to get them is to ship them unknown to the British government, and run the risk of being found out and losing the men. The importation of Chinese laborers also would have to be renewed again and again, for they would be certain, as Mr. Witt says, to turn traders, or start collecting rubber on their own account. Yet I believe it is absolutely necessary, if a foreign company is to be successful, that it should import labor from outside, for, in my opinion, it is impossible for such a company to succeed with Brazilian labor only.

The reason is really a very simple one. When a man or a company buys an agricultural estate or other landed property in a foreign country, such as Spain or France, or even Mexico, the produce of that estate belongs to, and is the property of the owner, be he a private person or a company. In the rubber regions of Brazil the produce does not belong to the owner of the estate. It belongs to the collector—the rubber cutter—who sells it to the owner for cash or goods at a price a little below the market price at the nearest center, whether Pará or Manáos. If a rubber cutter goes to a store on the estate and does not find in that store what goods he requires, he is pretty sure to sell his rubber to outsiders, and he cannot easily be prevented from doing so. If he owes money to the company, and the company tries to wipe off the debt by reducing the cash or quantity of goods given in exchange for the rubber delivered, the collector, if he can, will certainly sell his rubber elsewhere, where he will get the full "river" value for it without deductions. In the writer's experience, goods advanced on credit to the collectors beyond a certain small amount by a foreign company are never or very rarely paid for; the advances might almost as well be written off as soon as made. The Brazilian Rubber Trust, which took over the properties of the Rubber Estates of Pará, inaugurated a "no credit" system which was fairly successful, the liabilities of the cutters and tenants when

the company decided to lease the estates being only about £500, whereas previously, under the old system, they had amounted to nearer £6000 or £8000 at the end of each season. But the company found it impossible to do away altogether with the credit system, as it could not get sufficient men. I believe that the properties now owned by the Brazilian Rubber Trust have, since they were worked by an English company, produced on an average nearly as much rubber as the Visconde de São Domingos, the Brazilian owner, obtained from them, that is, about 250 tons per annum. But the English proprietors have never got more than 60 tons, and the average is only about 50 tons. What has become of the balance, the 200 tons? There is little doubt that something like that amount of rubber each year was sold to the rubber pirates. Consequently, the Brazilian Rubber Trust, though directed with some knowledge, has, like all the other foreign companies, failed to succeed.

What is the remedy? I am afraid there is none so far as the foreign company is concerned, except foreign labor. The Brazilian owner will, after due warning, promptly shoot the first rubber stealer or river pirate he comes across. He may not do the shooting himself, but the thief will be shot all the same, and nothing will happen. If the representative of a foreign company were to follow this example, that gentleman, and perhaps some of his staff, would be pretty certain to spend a

few years in prison, even if worse did not befall them. They are strangers in a strange land, and all their neighbors (natives) who are engaged in exploiting rubber, are their rivals and therefore their enemies. I have very little doubt that the Brazilian firm, to whom the Brazilian Rubber Trust have leased their estates, will earn very considerable profits every year, and will pay their rent promptly in advance, as they did the first year.

The experienced Brazilian *seringuero* knows how to work these estates to advantage. He knows how to checkmate the "river" thief; how to prevent his rubber cutters from selling elsewhere. If necessary to his own existence and success, he can, and will, remove the offender from the face of the earth. The foreigner lacks the experience, and even if he has lost all respect for the sixth commandment, he dares not break it in Brazil.

There is little more to be said. Good foreign laborers, Chinamen or Japanese, who will work for a wage at anything they are set to do, seem to me essential to the success of the foreign company working rubber properties in Brazil. I may add here that Barbadian niggers and their like are useless. Needless to say, the foregoing observations do not apply to the exploitation of rubber estates in Africa, Mexico, Peru, parts of Bolivia, Venezuela, Colombia, or any other rubber producing country where fairly efficient labor can be obtained for a comparatively small wage.

CAUSES OF THE DETERIORATION OF CONGO RUBBER.

By G. van den Kerckhove (Antwerp).

EDITORIAL NOTE.

THIS article, giving the opinions of a well known rubber expert, has been compiled from an interview with that gentleman in *La Gazette Coloniale* (Brussels, August 24), which journal, in view of the downward tendency in the value of rubber imported from the Belgian colony in Africa, has instituted an investigation into the methods of production of Congo rubber, in the hope of leading to an improvement in the same.

IN connection with the conditions now existing in the rubber trade of the Congo region, allow me to state that there are several causes which underlie the rise or decline in the value of all crude products, and notably rubber. All grades of rubber have not depreciated in the same relative degree; yet the products of the Congo basin have been particularly affected in this regard because of the very unsatisfactory condition in which they arrive in the European markets. Please notice that I use the word *condition* and not *quality*, for it has become the too general belief, and erroneously so, that it is the quality of the Congo rubber that has declined. I am free to admit that the excessive over production of some two or three grades of rubber has led to a shading of the quality, but this is by no means general.

When I take into consideration the enormous quantity of rubber produced in the Congo Free State, I am still of the opinion that the African continent will yet furnish this material in excellent qualities. The chief defect in the crude product lies in the oxidation of the gum, this oxidation being fostered by the long detentions in improper housings at the entrepôts near the places of collection. It is a fermentation, in fact, which renders the gum viscous or sticky. In most cases this is not the result of negligence on the part either of the black collectors or the white receivers. Let properly constructed storehouses be erected and placed at the disposal of the receivers, and they will send the gum in the best state of preservation to the European markets. As long, indeed, as

the raw product continues to be subjected to the present irrational conditions in Africa, we need not hope for any marked change in the character of the material shipped. True, during the transportation from the storehouses at Leopoldville, Matadi, and other places, to the sea the rubber is subjected to the deteriorating influence of the sun's rays, yet the character of this action is of less grave a nature than that produced by defective storage. In fact, in the former case the package is affected only upon one side, easily seen in spots on the exterior, while in the latter case, the whole package is affected.

Again, if the balls of rubber have remained long in a defective storehouse where they may have contracted noxious germs, their presence for a lengthened period in the hold of a ship carrying them to Europe, will, of course, hasten the oxidation, whereas if the gum be in a perfectly healthy condition when shipped it will not deteriorate from a short detention in the hold. But should a consignment of even healthy rubber remain, let us say two months, in the unventilated hold of a ship, especially in the tropics, it is certain that it would be seriously affected. Of course during the months of July, August, and September, even the repositories of Europe must be carefully looked after; for certain soft gums become bad during this season, even in the storehouses at home. On the other hand, if a consignment of rubber reach the European markets in a slightly damaged condition, its lying in a defective storehouse at home during the heated term will undoubtedly cause an aggravation of its viscous character; while the storage in the cold months may be prolonged indefinitely without any deleterious results.

In Africa, as you well know, there are two sources of supply for the commercial rubber, viz: the vines (*Landolphia*) and trees of several species. The gum obtained from the trees is less liable to become sticky, though this is not the only reason that rubber from other places should reach the European mar-

kets in a better state of preservation. Most of the localities of western Africa which furnish rubber from trees lie upon the coast and are therefore most conveniently situated; the gum is not allowed to remain long upon the ground but is promptly hurried to the seaports and shipped to Europe with the utmost despatch. Shipments from Lagos, Gold Coast, Senegambia, and Sierra Leone frequently reach Liverpool within 50 or 60 days after the sap from the trees has been dried.

Such favorable conditions are manifestly impossible with the products from the Congo basin, and chiefly for the reason that the perfect construction of the African repositories plays such an important part in the healthful preservation of our products. That rubber should be more or less inclined to become viscous depends much upon the method pursued in its coagulation. Thus the method employed by the Bokako (Bossanga) furnishes a gum of greater resistance, though the process which gives an extra dry rubber, exposes the product to a more pronounced as well as rapid contamination. For example, let us take a ball from Lopori; although it is less desiccated, it resists the contaminating influences to a greater degree than the well dried sheets from Kassai. If the drying has been imperfectly accomplished and the gum is placed in storage in such a manner as to be deprived of the necessary circulation of air, a condition which ensues when the balls are packed too closely together, a sort of fermentation is set up in the interior of the balls which in the long run attacks the elastic fiber, and the gum dies, and this is what the English technically describe as *dead, perished, or flaky* rubber; it is not viscous but pasty. If, however, reasonable care be taken in the storing of the gum, even watery or moist rubber will not suffer oxidation. At this point it may be well to add that the mixing of several varieties of *latex* before coagulation is extremely likely to induce organic decomposition; in such cases the viscous character is internal or, so to say, inherent. Happily such cases are of rare occurrence with our rubber from the Congo.

The best known preventive of oxidation consists in the drying of the *latex* by a low heat, in contact with the smoke. Rubber from Pará, Colombia, and Bolivia is dried in this way. It is greatly to be regretted that the milk of the African rubber vines (*Landolphia*) does not lend itself kindly to the smoke treatment, and, strange as it may appear, even the milk from the African rubber trees is equally rebellious under this form of treatment. Some samples of *Kickxia* rubber, from the Gold Coast, which had been dried in smoke, were critically examined by me, and I found that though the gum was pure and of handsome appearance, yet it had lost its elasticity. This peculi-

arity is generally attributed to the exceeding thinness or fluidity both of the Asiatic and African rubber *latexes*. Great care should also be taken in the packing, and for all varieties of gum which are destined to lie for any length of time near the points of production I recommend that they be put up in ordinary sacking, and this applies especially to those sorts which have been dried with extra care.

Returning to the subject of the effect of the sun upon the outer surfaces of the balls, I desire to state that I experimented upon some of the balls thus affected, in search of some sort of an antiseptic, and am pleased to say that my endeavors have produced satisfactory results. At this stage I should acknowledge that my experiments have not been exhaustive, since I only applied my tests to small quantities. It remains, therefore, to be seen whether or not the application of the same antiseptics will be equally efficacious when applied to large masses of the affected gum. I am afraid not, and in all that concerns the healthful preservation of the gum I incline to the maxim that it is better to prevent an evil than to provide a cure for it.

Unfortunately the greatest enemy to our Congo rubber trade is the reputation, fostered by others, that there is not a pound of absolutely healthy Congo rubber to be found in Antwerp. Equally unfortunate is the fact that there is no fixed rule whereby the degeneration or depreciation in the value of rubber from oxidation may be satisfactorily computed. I will give here an example of the difference in price obtained for two lots of the same consignment of rubber of which one lot was perfectly healthy and the other in poor condition. The lots were of about five tons each. The first, which we shall call Lot A, was sold for 5.50 francs per kilo. Of the second lot, which we shall call Lot B, two tons were wholly sound, and three tons more or less sticky (about the normal proportion). Lot B sold for only 4.90 francs. Compared then with the price obtained for Lot A, Lot B suffered a discount of 60 centimes per kilo, or about 3000 francs [= \$600] for the 5 tons.

From this case, however, we must not augur that all the lots containing portions more or less viscous suffered a depreciation of 60 centimes per kilo, upon the prices paid for healthy rubber. On the contrary, the discount is sometimes more and sometimes even less; this figure is by no means fixed and the loss depends upon the quantity of the affected gum and the degree of the oxidation. However, when we consider that the greater part of the lots emanating from the Congo region are more or less tainted, we may easily calculate the importance of the loss on the total caoutchouc production of the Congo.

UNPROFITABLE RUBBER TRADING ON THE CONGO.

IN connection with the condition of the rubber trade in the Congo region, it may be of interest to some of our readers to have before them a copy of the annual report of the directors of one of the Belgian companies trading in that field. The company referred to is the Cie. Anversoise des Plantations du Lubéfu, constituted at Brussels, December 1, 1897, with a capital of 600,000 francs to exploit a concession in the basin of the Lubéfu, an affluent of the Kassai—a district rich in rubber, in the Congo Free State. The profits of this company for the year 1899 amounted to 170,002.84 francs, and in 1900 to 225,497.89 francs. In the official report which follows, however, it will be seen that the company's business was transacted during 1901 at a loss, though the *administrateurs* were hopeful of better results for the future.

The report herewith relates to plantations of rubber now being made by the company, which are of two classes: (1) for the company's regular planting account, and (2) to meet the requirement of the Congo Free State that all persons extracting rubber must do a certain amount of planting. The decree of January 5, 1899, requiring that for every ton of rubber yielded annually, there shall be planted not less than 150 rubber vines or trees, is amended by a new decree, dated June 7, 1902, requiring that 500 vines or trees shall be planted for each ton of rubber removed. Such planting is to be done under the supervision of a bureau of control of rubber forests, which is empowered to fix the number of trees to be planted annually by each company or its agents, and also to point out suitable locations for such purposes. Any neglect of this decree is

punishable by fine or imprisonment, the maximum in either case being severe.

The Lubéfu's report follows, in full:

During the fiscal year just ended, we have produced 101 tons of Caoutchouc as against a production of only 71 tons for the year preceding. Though the 71 tons produced in the year 1900 left a substantial net profit of 225,000 francs, the greater crop of the year just closed has been gathered at a loss. Of this state of things, the principal cause arises from the fact that the managers in Africa, without previous notice, have been paying double the normal price for the product, at the same time failing to insist upon the delivering of a better quality of gum. By the time the home office could intervene, and bring to bear useful measures to remedy these disastrous dealings, the fiscal year had advanced too far to permit of a total reparation of the injury already done. However, about the end of the year the old prices were re-established and the vigorous measures pursued had greatly enhanced the quality of the product.

As to the plantations themselves, we must acknowledge that, during the year 1901, they sustained an appreciable setback. In his report dated January 16, 1901, the resident director states in effect, that there are 25,698 Liberian coffee trees of mature growth, which promise a crop at the end of the year; 250 indigenous coffee trees well laden with berries; 29,830 *Landolfia* [rubber] plants, in a thrifty condition and covering a tract of 30½ hectares [=75.4 acres.] There are also a great quantity of rubber plants in the nursery waiting to be transplanted, as soon as the ground therefor can be cleared and made ready, also 25,620 *Landolfia* plants to furnish the state taxes; 120,000 banana trees, etc. The statement issued by the inspector, whom we sent out to the fields refers to the condition of the property on February 18, 1900, when he says that "the amount of land already under cultivation is practically nothing"; that he found "only a few coffee plants and fewer still of the rubber plants set out"; the plantings for the state taxes for 1899 were doing well, but nothing had been done to provide for the governmental imposts for 1900 and 1901. There was not a plant of any kind in the nurseries, and a *procès verbal* had been served upon the manager by the inspector of forests.

We now hasten to add that a speedy remedy was found for this unpromising condition of affairs, and at this writing a new impulse has been given to the cultivation of the plantations, from which we have every reason to expect excellent results. We are also pleased to add that the reports from our new inspector presage immediate relief of the situation, thanks to judicious management and increased activity in a new direction.

We are also assured that he is using his utmost endeavors to increase the output and raise the cultivation to the *status quo ante*, and although

he has reduced the prices paid for the raw gum he has still succeeded in maintaining the production approximately at the normal figure.

An important event has signalized the close of our fiscal year—an event which has also definitely fixed the destiny of our company. You will no doubt remember the formation of the Compagnie du Kassai, in which we were invited to take part. After a general meeting of our shareholders, and with their entire approval, we have subscribed to the stock of the new company, merging the whole of our commercial system, but reserving our plantations, our property, and our options upon purchases. Among the Kassai companies the Lubéfu ranks fourth in importance, and as its share in the new venture it has been allotted 217 parts. We shall continue the systematic extension of our plantations, which will constitute a magnificent reserve.

BALANCE SHEET, YEAR ENDING DECEMBER 31, 1901.

ASSETS.	
Land in Africa.....frances	34,000.03
Growing plantations	105,915.50
Factories and other buildings	41,044.70
Material and furniture in Africa.....	12,673.24
Ditto in Europe.....	288.50
Boats and barges.....	9,830.91
Flocks and herds.....	2,430.00
Merchandise for barter.....	348,464.55
Products of Africa.....	296,864.02
Miscellaneous debits.....	67,498.10
Joint accounts.....	54,250.08
"Ordre" account	35,000.00
Total.....	1,008,259.63
LIABILITIES.	
Capital.....frances	600,000.00
Legal reserve.....	19,775.03
Extra reserve.....	30,000.00
"Prévisions" account	98,999.13
Miscellaneous Credits.....	223,929.66
"Ordre" Account.....	35,000.00
Profit and Loss	555.81
Total.....	1,008,259.63
PROFIT AND LOSS ACCOUNT.	
To Interest and commission on sales.....frances	18,993.77
General administration expenses in Europe.....	26,451.59
Ditto in Africa.....	108,858.63
Merchandise lost and spoiled.....	4,797.95
Balance to close account.....	555.81
Total.....	159,657.75
By Amount brought forward from 1900.....frances	6,779.50
Gross profit for fiscal year, 1901.....	152,877.95
Total	159,657.75

GENTSCH'S "NEW" GUTTA PERCHA."

THE method of producing the substitute for Gutta-percha referred to at length in THE INDIA RUBBER WORLD of September 1 [page 385] as the "New Gutta-percha" is the invention of Adolf Gentsch, of Vienna, and covered by patents, granted first in Austria-Hungary, and later in Germany and elsewhere. The German patent is No. 116,092 (date of application June 24, 1899), the specification for which states that the method consists of the mixing of India-rubber with vegetable wax, after which thickened oil may be added. The mixture is kneaded in a slowly rising temperature, which may be done to advantage in a kneading machine, care being taken not to bring the temperature so high as to melt the wax. A fixed proportion of ingredients cannot be prescribed. Waxes having a high melting point are used alone or mixed with thickened oil, as described in the German patent No. 76,773, having first been freed from water and dirt by melting. Mixtures may be made according to the purpose for which they are intended, in a proportion of 50 parts wax and 50 parts Caoutchouc, or 40 wax,

10 oil, and 50 Caoutchouc. Outside of palm wax (carnauba wax), few vegetable waxes are known that possess a high melting point, and it is advisable, therefore, as in German patent No. 111,088, to raise the melting point of the wax before kneading. It is also advisable that the rubber be first well dried. The result claimed is a homogenous product, possessing the characteristics of Gutta-percha and particularly, the electrical properties of the latter.

Gentsch's Gutta-percha, it is stated, behaves like the natural product, except that it possesses a higher softening point and becomes firm again at a somewhat higher temperature than natural Gutta-percha. This is held to be greatly to its advantage, as making it serviceable as an insulator for wires made or erected in situations where the temperature is apt to rise above the normal. Added to this advantage is the low cost of production, as compared with natural Gutta-percha. In addition to its use in insulation work, the new material is mentioned as being suitable for manufacturing certain beltings and for vari-

ous other industrial uses—the new product being given different characteristics for each.

A report of a visit to Mr. Gentsch's factory, by Ed. C. de Segundo, A. M. I. C. E., in February last, describes the work as there carried on as comprising these ingredients: Wax (mineral), tar or pitch, resin, and India-rubber. A mixture of resin, wax, and tar was thrown into a kneading machine, steam being applied from below, to keep the temperature at the proper point. Twenty minutes later, the mass having been kneaded meanwhile, the steam was turned off and the rubber (cut into small pieces) added, being fed in slowly to prevent jamming of the knives of the kneading machine. The machine was stopped from time to time to test the condition of the mass, and at the end of three hours the solution of the rubber was found to be complete and the mass was removed from the machine and passed between rollers, coming out in slabs $\frac{1}{4}$ inch thick—the finished material. While the best Pará rubber was used, Mr. Segundo considers this unnecessary, believing that a mixture of rubbers of lower grades would effect the same purpose.

The inventor is said to have occupied himself with this material for seven years, and after five years of observation and

testing, the German postal authorities certify that it is a proper substitute for Gutta-percha for insulating wires and cables. Two cables, in fact, have been laid for the government—a submarine cable about $5\frac{1}{2}$ miles long in the North sea and a telegraph cable about $\frac{1}{4}$ mile long in a river. These cables were made by Felten & Guilleaune (Mülheim-on-Rhine) who acquired the German patents in March, 1901, and who, as a result of their experience with the material, have since acquired the Austrian, Hungarian, and Russian patents, and have begun the manufacture of the material in Austria as well as in Germany.

The English rights have been acquired by the New Gutta Percha Co., Limited, registered on July 30 with a capital of £200,000, and with offices at Dashwood House, New Broad Street, London, E. C., from which address THE INDIA RUBBER WORLD is informed: "Although our factory is not yet ready, we have received a substantial order for the material for insulating wires from one of the largest manufacturing companies in England. We have made arrangements for orders to be executed for us by Messrs. Felten & Guilleaune pending the completion of our factory premises here."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

HAVING had an opportunity of seeing the new doubling machine invented by Messrs. Frankenstein and Lyst, of Victoria Rubber Works, Newton Heath, Manchester, I am in a position to give a few details of what is a decided novelty in waterproof manufacturing. The machine has been made by Messrs. Francis Shaw & Co., of Corbett Street Works, Bradford, Manchester. In the ordinary process of making double texture both fabrics are coated with dough, and then caused to adhere by means of calender rollers. In the machine under notice only one cloth is spread with rubber, the other piece, which is uncoated, being doubled to the proofed fabric by a tight coating of thin rubber solution spread on the surface of the proof, and which meets the unproofed cloth while it is moist by passing between the doubling rollers. Firm attachment takes place, the naphtha being subsequently driven off in the passage of the cloth over a drying cylinder. This process dispenses with the coating of the second fabric, by which means a considerable saving is effected. As is well known, it is the first coating to fill up the pores of the somewhat airy material used nowadays, which is the expense, and if the full weight of proof can be put on one cloth only it is clear that a saving is obtained. The figures obtained by the patentees quite bear out the claim as to saving in cost of manufacture, and I shall be rather surprised if this process is not adopted elsewhere than in the works of the inventors.

THIS branch still continues in a depressed condition, and a revival is eagerly anticipated. The busy season is now commencing, the last quarter of the year always producing the greatest activity in the works in order to supply middlemen's demands. The decline in rubber to 2s. 11½d. has not lasted long, and although there is no apprehension of a return to the high prices which have ruled, yet manufacturers do not speak confidently of a continuous period of cheap rubber. Buyers are stated to know the price of raw rubber nowadays much more than used to be the case, and they are thus in a position to criticize the jeremiads as to the high price of raw material which manufacturers are wont to liberally indulge in. Even if raw material

should keep at a low figure, it can hardly be expected that proofers should augment the discounts in their price lists to any extent, because, owing to lack of combination, they did not obtain a rise of prices when rubber went to a high figure. The mechanical rubber manufacturers, by means of their association, did better in this respect, and it remains to be seen how far the spirit in favor of a reduction prevails. Apropos of the great run there has been on the rainproof material, it is significant to hear that a prominent merchant who does a large business in waterproof and rainproof goods, sees signs of the popularity of the latter declining in the near future. Customers do not seem to have recognized that the rainproof goods are not waterproof, and they have begun to send the garments back with the complaint that they are not satisfactory as regards keeping out rain. It will be interesting to see if these sort of complaints become general; in the meanwhile it is hardly necessary to state that the macintosh manufacturer takes much comfort from this rift in the clouds which have overshadowed his business of late. The printed fabric so far shows no decline in popular favor; there are no particular novelties to record in connection with this process. Particulars as to the arrangement come to, between Messrs. Moseley and Messrs. Frankenburg in their legal dispute as to the aluminium patent, have not yet become public property. Instead of aluminium powder Messrs. Frankenstein use powdered tin according to their patent, the effect being very much the same.

AS a paragraph which appeared in the August issue of THE INDIA RUBBER WORLD is apt to convey an erroneous idea of the composition of Dermatine, it seems advisable to state that the materials given do not at all correspond to what is employed in the manufacture. They may, indeed, have been mentioned in Mr. Zwinger's patents in the somewhat embracing manner adopted by patentees, but the truth is that the original formulas have been so widely altered by the present management that it would be difficult to show any connection between the new and the old. With regard to the item "waste rubber," which was mentioned in THE INDIA RUBBER WORLD, I have no hesitation that it is not used even in the smallest proportion, only

A NEW
DOUBLING
MACHINE.

THE
PROOFING
TRADE.

THE MANUFACTURE
OF DERMATINE.

new material of the best quality entering into the composition of Dermatine, this indeed being necessitated by the severe tests to which the material is subjected in practice. I am not writing an advertisement, but only seeking to correct a statement which might easily prove damaging: of course I am not oblivious of the adage *magna est veritas, et prevalebil*, but at the same time another saying comes to mind referring to the speed with which a perverted truth can cover the ground; hence this friendly disclaimer.

THE increasing number of accidents occurring with motor cars is causing many people of somewhat nervous temperament to look askance at the rival of the horse. With regard to the fatal accident to the Fairs, at Paris, it would seem as if the "Continental" tire of to-day is open to some suspicion as regards safety. The narrowing of the tread undoubtedly tends to the increase of speed, but this is attained at the expense of safety, owing to the strain put upon the canvas by the sharper angle at which it is bent. This explanation, which is of course only the expression of individual opinion, may not seem plausible enough for general credence, but I may say that it has the support of motorists who have used tires of all makes. With regard to the Goodyear tire, whose advent into this country a few months ago was favorably reported on in these notes, it is somewhat surprising to hear that in many cases it has failed to come up to expectations. From the nature of the complaints which have come to my ears, I should say that in the endeavor to obtain a tough rubber sufficient care has not been taken to avoid the perils of over vulcanization. Apart from the failure to withstand wear and tear, another cause of complaint seems to lie in the difficulty experienced in putting on and taking off the tire. The Martin tire is now being extensively tried on the road, and I hope on a future occasion to be in a position to give some details.

SINCE the late disastrous fire in the General Electric Co.'s premises in London a good deal of correspondence has appeared in the newspapers on the subject of fire prevention, and our position compared with American towns has come in for much adverse comment. With the subject as a whole I have nothing to do here; it is only of the resulting activity in the fire hose trade that mention may here rightly be made. A parsimonious spirit in the matter of purchases seems to be deeply rooted in those who are responsible for the necessary expenditure on the upkeep of a fire brigade, but the recent outburst of public indignation has awakened authorities to what is in store for them if they omit to fully prepare themselves for emergencies.

THE appearances of Messrs. F. Reddaway in court, in order to obtain injunctions against competitors for using the name "Camel" in connection with belting, have come to be looked upon as hardy annuals. In the most recent of these cases, that against the Frictionless Metallic Packing Co. honors were somewhat evenly divided, as the defendants were restrained from using the name "Karmal" alone in connection with belting, as the public might be misled into thinking that it was Reddaway's. With regard to the use of the word "Camel" it was again held, as notably before by the House of Lords in Reddaway v. Banham, that as long as some qualifying term was used in connection there was no infringement. Thus "Smith's Camel Hair belting" would not be an infringement. In the rather dull proceedings at the Manchester chancery court, interest was chiefly aroused among the business men present by the reiteration of Mr. Squire, a director of Reddaway's, that he did not know the names of any

of their competitors, and he had never had the interest to find out anything about them. His interest in the subject had not extended either to read the reports of the last injunction proceedings, or to study the lengthy Reddaway v. Banham case, which went through all the courts to the House of Lords. No doubt there is a strong tendency among new comers to make use of a rival's success, and I have come across plenty of camel hair belting in various continental exhibitions. I imagine that Tuck's have to put up with a good deal of this sort of thing, as Tuck's packing is manufactured and sold on the Continent. I understand also that The Dermatine Co. have had to take strong measures to prevent their descriptive title being annexed by enterprising foreigners.

MESSRS. G. H. SCOTT & Co., of New Mills, Stockport, the well known rubber substitute manufacturers, announce that they are putting a superior brand of red sulphide of antimony on the market. One or two English houses have long had a name in the rubber trade for this article, and to the best of my knowledge German competition has never proved serious, though the same cannot be said with regard to the French make. I don't suppose that the demand for this chemical has increased of late, as outside rubber and pyrotechny its applications are very limited, indeed. There has certainly been a reduction of price in the last ten years, and the trade will not discourage further competition.

THE new golf balls, the Haskell and Kempshall, come in for a somewhat lengthy dissertation by a writer in the September number of *Blackwood's Magazine*. Owing to the high price which has been demanded, on account of the limited supply, the rather severe step of forbidding their use has been taken by the organizers of some of the Scotch tournaments this autumn. Certainly 10 shillings per ball—a figure which has been asked and paid—is calculated to frighten the thrifty Scot. As regards the ordinary club professional this individual does not look upon the American balls with a very lenient eye, because with them his occupation of remaking vanishes.

THE West Gorton Rubber Works, Manchester, where the "Standard" tire has been made of late years, are, I understand to be given up. The works once occupied by Mr. Gregson for tire making are now the property of Messrs. Littlewoods, who are in the tire business at Birmingham, and it has been arranged to carry on the whole business in the latter town.

THE post of manager recently vacated at Messrs. George McLellan & Co.'s rubber works at Glasgow, by Mr. Walker, has been taken over by Mr. Peter Scott McLellan, nephew of the head of the firm. —Work is now being rapidly pushed forward on the extensions of the Irwell Rubber Co., of Salford, Manchester, though it will probably be March before the buildings and new machinery are ready for use. The additions will enable the firm practically to double their output, the existing premises having proved quite inadequate to meet the increased business of recent years. —Another old established rubber firm—David Moseley & Sons—has been registered as a limited liability company, with £300,000 capital. It is what is known in Great Britain as a private company, the shares being held in the family, and not offered for public subscription, in which way it takes rank with Macintosh & Co. and Frankenburg, and not with firms such as the North British and Silvertown. —I understand that the Dunlop Rubber Co., of Birmingham, in addition to their regular tire business, are actively pushing the general rubber business, in view, no doubt, of the rapidly approaching time

MOTOR
TIRE
NOTES.

SULPHIDE
OF ANTIMONY.

GOLF BALLS.

ACTIVITY IN
FIRE BRIGADE
APPLIANCES.

REMOVAL
OF WORKS.

TRADE
NAMES.

SHORT
MENTION.

when their tire patent monopoly will cease. It is needless to say that this move is not looked upon with the liveliest satisfaction by those old established houses whose business it is sought to annex. Dr. Carl W. Thiel, who has been chemist at Messrs. Reddaway's rubber and belting works at Pendleton for the last six years, has vacated that position, his health having been unsatisfactory for some time. Dr. Thiel has been demonstrator at Erlangen University and has done tutorial

work at Oxford. He now leaves the smoky atmosphere of Manchester for the more salubrious climate of Hamburg, having been appointed chemist for the Asbest- und Gummiwerke Alfred Calmon. Of a somewhat retiring disposition, Dr. Thiel has not engaged in any controversies in the press and, indeed, I imagine his name is quite unknown to the readers of the rubber trade journals, a fact which is a necessary outcome of being engaged in research work.

THE AMERICAN BICYCLE CO. EMBARRASSED.

A CRISIS which has developed in the affairs of the American Bicycle Co. has caused little surprise in the trade. It was generally expected that the company would default on the payment of interest on its debenture bonds due on September 1, which proved to be the case. Receivers have since been appointed in a friendly suit, and plans are under way for the reorganization of the company, probably with a smaller capitalization. The American Bicycle Co., incorporated in New Jersey in May, 1899, was organized to acquire and operate the works of forty-four of the principal manufacturers of bicycles and bicycle parts in the United States. Subsidiary companies have since been formed to carry on the various branches of production of the company, which is now only a holding company of the stocks of the various subsidiary concerns. None of these companies, it was at first stated, would be affected by the fact that the parent company had been placed in the hands of receivers.

The receivers appointed are R. Lindsay Coleman, president of the company; Colonel Albert A. Pope, a director and understood to be a large holder of the company's securities; and John A. Miller, a resident of Newark, New Jersey. The appointment was made on September 3, in the United States circuit court at Trenton, New Jersey, on the application of Elliott Mason, of Brooklyn, New York, holding 220 shares of the capital stock of the company, and Mrs. Emma B. Stimson, of New York, holding 8 debenture bonds, who allege that the company is insolvent. They give a statement, based upon the information furnished by the treasurer of the company, showing liabilities of more than \$10,000,000 and assets estimated at \$7,751,523. R. Lindsay Coleman, Albert A. Pope, and Frank J. Webb have been appointed ancillary receivers, in the United States circuit court in the city of New York, the American Bicycle Co. owning property in the state of New York valued at \$375,920. Ancillary receivers have also been appointed in the other states in which the company owns property. A reorganization committee now at work consists of George F. Crane (of Baring, Magoun & Co.), George A. Read, George W. Young, F. S. Smithers, and Colgate Hoyt.

The American Bicycle Co. was organized with an authorized capital of \$30,000,000—\$10,000,000 in preferred and \$20,000,000 in common shares. In October, 1901, the capital stock was reduced to \$26,995,500—\$9,294,000 in preferred and \$17,701,500 in common shares. There was also an issue of \$10,000,000 in 5 per cent. debenture bonds, to be retired at the rate of \$250,000 per year, the amount now standing at \$9,500,000. The company early in its history sold its rubber tire plants to the Rubber Goods Manufacturing Co., and has gradually closed other plants, until a few now are operated, these being worked by various subsidiary companies named in this article. Of these ten are bicycle factories. These companies are now reported in a fairly good condition, except that they need more working capital, but this has been the case from the begin-

ning. The liabilities of the American Bicycle Co. consist mainly of its debenture bonds, which are held largely by shareholders in the company and their friends, so that any reorganization that may be effected will be done within the corporation. The next annual meeting is due October 14.

The principal liabilities are reported as follows:

Debenture bonds at 5%	\$9,500,000.00
Interest due on debentures	225,000.00
Baring, Magoun & Co.	150,000.00
National Battery Co.	5,000.00
F. S. Smithers & Co.	58,073.68
Federal Manufacturing Co.	50,000.00
Total	\$9,988,073.68

The principal assets are shares in the following corporations:

	Par Value.	Market Value.
American Cycle Manufacturing Co.	\$ 8,000,000	\$4,000,000
International Motor Car Co.	2,000,000	800,000
Federal Manufacturing Co.	3,200,000	2,000,000
National Battery Co.	215,000	50,000
American Wood Rim Co.	146,500	125,000
American Bicycle Co. debenture bonds.	500,000	275,000
Barwest Coaster Brake Co.	75,000	nominal
Auto Street Sweeper Co.	34,300	nominal
Total	\$14,170,800	\$7,250,000

Some other assets are valued as follows:

Plants:	
Syracuse, N. Y.	\$45,000
North Buffalo, N. Y.	36,000
Thompsonville, Conn.	25,000
Hartford, Conn.	170,000
Reading, Mass.	50,000
Chicago, Ill.	35,000
Shelby, Ohio.	30,000
North Milwaukee, Wis.	50,000
Cash in bank.	14,000
Miscellaneous assets.	25,000
Accounts and notes.	5,427

THE INDIA RUBBER WORLD'S Akron (Ohio) correspondent writes: "Manufacturers of bicycle tires here have been taking considerable interest in the recent appointment of receivers for the American Bicycle Co. and the movement for the reorganization of that company. They do not believe, however, that the difficulties of that concern will have any serious effect upon the bicycle tire trade. Your correspondent, in talking with the rubber manufacturers, found the opinion general among them that, following the reorganization of this company, the bicycle trade would be improved; that whether the American company bought many or few, tires would continue in fair demand, although the business is not what it once was. The principal reason for this is that the percentage of cheap tires has been increasing, since the sale of bicycles is confined more and more to the wage earning classes and young people who buy them merely as pleasure vehicles. The weather all over the country this year was against the bicycle business, but a better trade all around is looked for in the coming year."

The number of independent bicycle factories continues to

decrease. Lately the Sherman Cycle Co. and the Manson Cycle Co., both of Chicago, have been amalgamated with Great Western Manufacturing Co., of Laporte, Indiana, where all the manufacturing of the three companies will be consolidated. The Great Western company was formed some years ago by the combination of the bicycle plants of David Bradley and the Adams-Westlake Co., of Chicago, and the Crown Bicycle Works, of Laporte. The Great Western company now have the largest bicycle business in the country, next to the American Bicycle Co.

AMERICAN CYCLE MANUFACTURING CO.

THIS company, the principal subsidiary concern under the American Bicycle Co., was placed in the hands of receivers on September 17, by order of Judge Jenkins, of the United States circuit court at Milwaukee, on the application of Attorney Henry S. Towle, who explained that the company had lost credit through the appointment of receivers for the parent company. He stated that the company is solvent, but the cash on

hand is small. The receivers named are the same as for the American Bicycle Co.—R. L. Coleman, A. A. Pope, and J. A. Miller. The same persons were appointed as ancillary receivers in the state of Massachusetts, by the United States court at Boston. The American Cycle Manufacturing Co. was incorporated in New Jersey, December 20, 1901, with \$8,000,000 capital paid in, all but 10 shares of which are said to be held by Messrs. Coleman, Pope, and Miller. The appointment of receivers has been applied for in six other states.

The following is a record of trading in American Bicycle shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 29	43,500	67 ³ / ₈	31 ¹ / ₂	900	181 ¹ / ₄	171 ¹ / ₂
Week ending Sep. 6	24,030	31 ¹ / ₄	13 ³ / ₄	500	16	10
Week ending Sep. 13	4,697	21 ¹ / ₄	2	2,428	10	10
Week ending Sep. 20	7,900	21 ¹ / ₄	11 ¹ / ₂	900	8	71 ¹ / ₂

THE AMERICAN AUTOMOBILE INDUSTRY.

A WRITER in the New York *Sun* (September 21) estimates that prior to 1900 about 5000 automobiles had been produced in the United States, mostly electric and steam vehicles. About 10,000 were manufactured during 1901, at the end of which year probably 12,000 of the total number produced were still in use, many of the earlier ones having been consigned to the scrap heap—partly from wear and tear and partly because electric cabs had been withdrawn from service in most of the cities where they had been introduced. The present year has witnessed a great increase in the number of automobile factories and in the extension of the older plants, until now 300 manufacturers are reported to be actually building complete vehicles in the United States, and about 2000 manufacturers, in addition to their other business, making component parts and accessories for automobiles. Only 86 automobile factories, however, have produced ten or more vehicles this year, and the number of makers of accessories promises to be reduced gradually by a natural weeding process, leaving only those who will study the automobile situation assiduously now for the sake of the profits to be made in following years.

Based upon the operations of the first eight months of 1902, and the work then in progress, the estimated product of the 86 factories referred to is stated in the *Sun* as follows:

TYPES.	Factories.	Vehicles.	Selling Value.
Gasolene.....	50	10,040	\$10,431,250
Steam.....	27	6,260	6,565,500
Electrical.....	13	1,835	2,262,500
Total.....	90	18,135	\$19,259,250

The total of 90 in the table results from counting some of the factories twice, because of their producing more than one type of vehicle. Including the production of the smaller factories, the total estimate for 1902 is 19,000 vehicles, of a value exceeding \$20,000,000. The distribution of production by states of the 18,135 vehicles is, approximately, as follows:

Michigan.... 5,060	Connecticut.... 2,100	Illinois..... 550
Ohio..... 4,395	Massachusetts.. 1,475	Missouri..... 100
New York } 2,420	Indiana..... 1,175	California..... 35
New Jersey }	Pennsylvania... 825	

The distribution by types is thus estimated:

Gasolene.	Steam.	Electric.	Total.
10,020	6,255	1,830	18,135

The following data regarding the selling prices of automo-

biles are compiled from the article in the *Sun*. Several groups of figures respecting gasolene vehicles give these average values:

PRODUCED IN—	Vehicles.	Av. Value.	PRODUCED IN—	Vehicles.	Av. Value.
Cleveland.....	1320	\$1800	Massachusetts....	705	\$1060
St. Louis.....	100	1800	New York.....	245	872
Indiana.....	225	1555	Illinois.....	450	811
New York.....	465	1462	Michigan.....	5000	700
Pennsylvania...	725	1432			

Massachusetts reports 770 steam vehicles of the average value of \$932, including a few heavy trucks at \$3000 and 100 diminutive runabouts at \$500. Fifty heavy steam delivery wagons made near New York city averaged \$2000, and 1100 large pleasure vehicles average \$1200. Ohio reports 500 steam vehicles averaging \$1000. New York reports also 100 electric omnibuses at \$1500 and 200 electric trucks and delivery wagons worth \$2500. Indiana reports 950 electric vehicles averaging \$987. Gasolene vehicles as high as \$4000 are reported from Massachusetts. It will thus be seen that a wide range of prices prevails, since the number of styles of vehicles is almost beyond counting.

According to these figures, there should be in the United States, by the end of the year, not less than 30,000 automobiles of domestic production, each of which has called for a set of four rubber tires, to say nothing of inevitable replacements. The business which the automobile industry has afforded for the rubber manufacturers already represents a neat sum, and the field promises to expand for some time yet. The bicycle production above referred to would call for at least 20,000 sets of four rubber tires, which, at an average of only \$50 per set, would represent \$1,000,000 in value. How much higher the actual cost may have been, the rubber manufacturers are best qualified to estimate.

A feature of interest in connection with the manufacture of automobiles in the United States is the volume already attained in the export trade. During the last fiscal year the value of such exports amounted to \$948,528, as follows:

July, 1901...\$72,402	Nov., 1901...\$39,383	March, 1902...\$ 88,350
August..... 56,306	December... 65,451	April... .. 151,199
September... 78,100	Jan., 1902... 27,311	May... .. 148,647
October.... 55,735	February.... 34,500	June.... .. 131,150

The exports for July, 1902, reached \$133,073, making a total of over \$1,000,000 for the twelve months ending with July. These exports have been widely distributed—to Europe, South

and Central America, and Australia. In four weeks recently the exports to London were valued at \$6568, \$10,797, \$13,850, and \$16,000, respectively. One vehicle shipped to Southampton was valued at \$4500, one to Hamburg \$2000, and two to Liverpool, \$1500 and \$1400. Several shipments have been made to France. There is no reason, by the way, for supposing that these exports have been made on other than a *bona fide* demand.

In spite of all that has been said in regard to imported automobiles, the total number entered at United States custom houses during the fiscal year 1900-01 was only 40, of the average value of \$1077.35, or a total of \$43,094. Later official returns of such imports are not yet available, but the total during the past year must be much smaller than the volume of exports.

The production of automobiles in the United States, in the carriage industry, during the year ended June 30, 1900, was 3901, of the value of \$4,680,276, or an average of \$1199.76, according to Census Bulletin No. 241. Of these, 3472 are classified as "passenger and pleasure" vehicles and 429 as "delivery

and transfer." The production was distributed, by states, as follows:

Massachusetts...	1173	New Jersey.....	244	Missouri.....	28
Connecticut...	896	Ohio.....	334	Maryland.....	25
Illinois...	671	Pennsylvania....	68	Wisconsin.....	17
New York.....	582	Indiana.....	33	Maine.....	12

Four are credited also to Rhode Island and one each to Kentucky, Louisiana, Delaware, Nebraska, New Hampshire, and Virginia.

In addition, mention is made of 56 automobiles among the "other products" of bicycle factories, of the value of \$60,788. Still other vehicles were produced in other establishments, by the assembling of parts purchased from the respective makers, so that Census Bulletin No. 243—devoted to Locomotives—gives a larger total production for the United States for the census year, classified and with the selling values as follows:

Types.	Vehicles.	Value.
Steam.....	1681	\$1,147,927
Electric.....	1575	2,873,464
Hydrocarbon.....	936	878,052
Total.....	4192	\$4,899,443

THE RUBBER SITUATION IN BOLIVIA.

AN official report on the rubber resources of Bolivia, and the progress that has been made in their development, by Señor Manuel Vicente Ballivian, the head of the national office of immigration and statistics of that country, which appeared under date of August 2, 1902,* will contribute largely to a proper understanding of the rubber situation there. The rubber interest is regarded by Señor Ballivian as second in importance only to the greatest natural source of wealth in Bolivia, namely, mining. While the great extent of those regions which constitute the *habitat* of the rubber tree in Bolivia is widely known, very little really has been done by the authorities to regulate the acquisition of the rubber lands by private parties, and their utilization, for the benefit both of industrial interests and of the national treasury.

Señor Ballivian during the past ten years, in addition to numerous articles in the periodical press, has written several pamphlets dealing with the development of the Bolivian rubber industry and the importance of more systematic attention to this matter by the state. One such pamphlet was a report on his exploration, in an official capacity, of the territories of the Northwest and the department of Béni, in 1893-94. A later report referred to the work being done in the exploitation of rubber in the regions of Béni, Mamoré, Madidi, and Madre de Dios, by parties who had been engaged in similar work on the Rio Madeira.†

One of the results of the investigations of Señor Ballivian during all these years has been the framing of laws now pending before the Bolivian congress, having for their object a reform in the system of granting concessions for rubber *estradas*, abandoning the system of granting very large tracts of land having an illusory number of *estradas*, very often unverified and not accurately designated. In this connection the Brazilian laws regarding the adjudication of unoccupied lands has been followed.

Having established definitely the extent of the rubber resources of Bolivia, and laws having been framed for the en-

couragement of the exploitation of rubber, Señor Ballivian next interested himself in an investigation into the status of the concessions of rubber lands that had been made in the different provinces. Statistical work is still pursued with difficulty in Bolivia, however, particularly in the more remote parts, and this report embraces only the details regarding the districts of La Paz, Santa Cruz, the Béni, Cochabamba, and the national delegation of Madre de Dios—leaving out for the present the large Acre district and the territory drained by the Purús.

Still this report is sufficient to show that only a small percentage of the rubber concessions granted have become valid through full compliance with legal requirements. In some cases the concessions have been abandoned after compliance with the preliminary formalities, and it appears that a great portion of the rubber lands is still in possession of the state and could be granted to any capitalist prepared to exploit them. From the beginning of the year 1896, and up to July 1 of the present year, it appears of all the rubber concessions applied for in the districts above named, the legal provisions have been fully complied with only to the extent of 30,179 *estradas*, while 110,000 *estradas* covered by applications on file have been abandoned. This suggests to Señor Ballivian that very much rubber territory has been explored without a clear title, which view is supported by the custom house statistics, showing a constant increase in the exports of rubber. The attention of the government is called to these facts in order that steps may be taken for the more thorough collection of revenues from rubber.

Señor Ballivian's report, after these general considerations, gives a complete list of the applications filed for rubber concessions in the several departments, with a record of the present status of each concession. The name of the *concessionaire* in each case is given—several hundred in number—with the location of the property and the number of *estradas* comprised. The book thus forms a valuable basis for whatever steps may be undertaken by the administrative authorities for the closer supervision of the rubber industry.

* * *

ONE explanation of the large number of rubber concessions applied for, as compared with the number actually developed,

* Industria de la Goma Elastica en Bolivia. Movimiento de peticiones, concesiones y cuadros de referencia, desde 1892 hasta 1902. La Paz: 1902. [8vo, 42 pages.]

† A synopsis of still another report, by Señor Ballivian, indicating the limits of the various rubber districts of Bolivia appeared in THE INDIA RUBBER WORLD of August 1, 1900.—THE EDITOR.

though not mentioned by Señor Ballivian, is probably the desire of citizens of the country to profit by locating rubber *estradas* and selling them at a profit to foreigners. Only a small fee is required for thus having concessions registered, and if the *concessionaire* fails to proceed further his loss is not great if the concession lapses. Some years ago a group of Boston rubber men sent an agent to Bolivia who took an option on several rubber properties, paying a forfeit on each with the idea that his principals might determine to acquire the properties and engage in rubber gathering on a large scale. This project was not carried out, however, and a reference to Señor Ballivian's report shows these identical concessions on the list of those registered and abandoned.

MAP OF A "SERINGAL."

THE frequent reference in these pages to *estradas* in connection with rubber gathering may make of interest some word of explanation, with which is presented on this page a diagram of a small rubber concession embracing 32 *estradas*, giving employment to 15 men, lodged in three huts, the whole being convenient to a water course navigable by a steam launch. This is a rough sketch of a rubber concession actually being worked in Peru, and is probably the first plan of the kind to be presented in print. The word *estrada* is Spanish for path. A collection of rubber trees is called a *seringal*, from the Portuguese name of the Brazilian rubber tree "*seringa*," whence also comes the word *seringuero*—a rubber worker. When a new *seringal* is to be opened, generally in a dense forest rendered almost impassable by the luxuriant undergrowth, an expert rubber hunter is employed who, starting from a given point, proceeds through the forest until a rubber tree is located. Calling back to his assistants, he waits until they reach him, blazing out a path on the way and the tree is marked so that it may be recognized. He then proceeds until another tree is found, when the path is similarly extended, and so on until, having gone far enough in his judgment, he turns and proceeds again toward the starting point, still locating and marking rubber trees while his assistants blaze out the path. The work of opening the path is then completed, after which it is the duty of each *seringuero* to keep open the *estrada* (path) which he is detailed to work. The idea is to make the *estradas* each of a convenient length for one man to tap all the trees included in it, and carry the rubber milk back to the hut and cure it, in one day. Two *estradas* are assigned to each man, who "works"

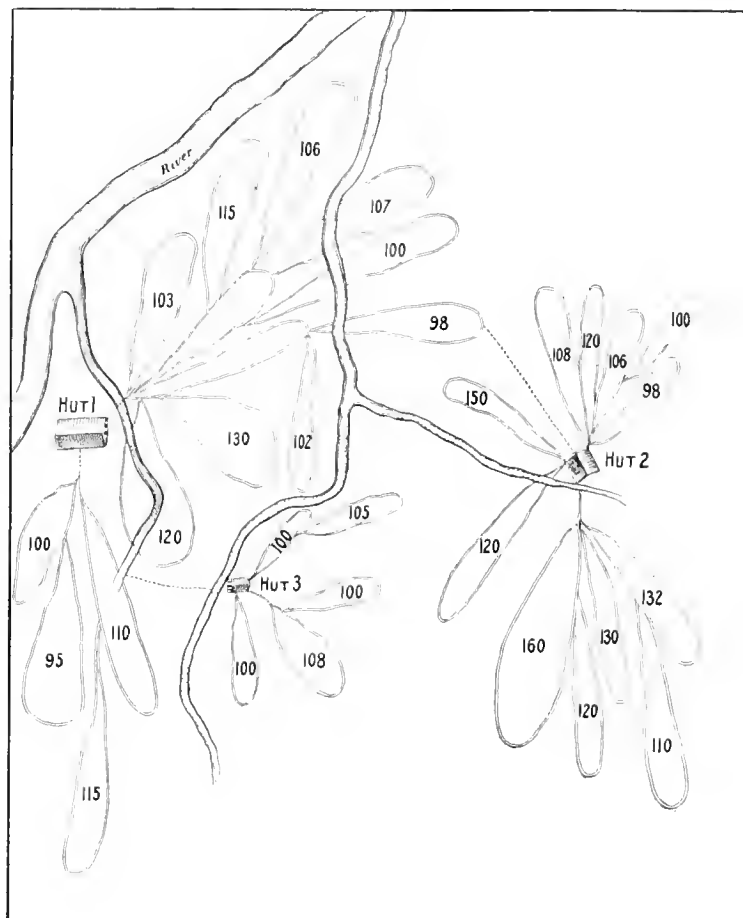
them on alternate days. As will be seen, the number of trees embraced in the *estradas* varies widely, the numbers in the diagram ranging from 95 to 160. It will be seen also that this *seringal* embraces three groups of *estradas*, with considerable open space intervening, the reason for which is that the rubber trees are found in groups, and that in the open spaces indicated, the rubber trees are so scattering as not to repay location and working.

YIELD OF THE PARA RUEBER TREE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since you have shown so much interest in the subject of the yield of the rubber trees of the Amazon valley, perhaps you may find space for a few more details on this subject. It must be understood that the product of the rubber tree varies greatly with its locality and also with its size. For instance, on the Acre it is not uncommon to find *estradas* of 100 trees giving 12 to 15 kilograms of green rubber—i. e., on the same day as cut. On the Badajós, on the other hand, a similar *estrada* will yield only 3 or 4 kilograms. Besides, the yield from the same *estrada* will vary at times, and one man may extract 8 or 10 kilograms from an *estrada* that will give only 3 or 4 to another and less skillful operator.

This is the yield per day. Any attempt to estimate the yearly yield is complicated by the varying length of the working season, which may be 60, 90, or even 180 days, in different localities. The same *estrada*, as a rule, is not worked daily, but every other day.

It must also be remembered that many *seringueros* adulterate their rubber with the latex of the pitch tree, which, when carefully mixed, 1 *fraco* of pitch latex to 2 of rubber latex, is not easily detected, the rubber being sold at



PLAN OF A "SERINGAL" IN PERU.

HUT 1—With 15 *Estradas*, employing 7 men.

HUT 2—With 12 *Estradas*, employing 6 men.

HUT 3—With 5 *Estradas*, employing 2 men.

Total number of trees, 3573.

Manáos as "fine" at market prices. If, therefore, a really good man who cut rubber at night, thereby getting 40 per cent. more, mixed the product with pitch latex, he would get 10+5=15 kilograms of rubber from an *estrada* which would yield only 6 kilograms to an innocent rubber cutter who cut by daylight and sold pure rubber only. Then the statistics of production usually given do not include "scrap," which is scraped off the trees and mixed together until it is impossible to reckon the total yield for any day, as nearly always the same man works two *estradas* on alternate days.

The almost universal practice of heating the latex before smoking in order to hasten the cure of the rubber doubtless has an injurious effect, in detracting from the elasticity of the

finished product. [This is a subject on which THE INDIA RUBBER WORLD would like further details.]

The Caucho tree is now generally affirmed in these regions to be *Castilloa elastica*, but in view of some remarks in THE INDIA RUBBER WORLD on the Mexican rubber tree (the species first designated as *Castilloa elastica*), it would seem that the classification of the Brazilian rubber species should be revised. Among the *Heveas* I am acquainted with at least twelve well marked species, which give a very different product, and there is a kind of *Manihot* here which gives a rubber very different from that from the maniçoba (*Manihot Glaziovii*) of Ceará.

Manaos, August 16, 1902.

BOLIVIAN RUBBER STATISTICS.

To return to Señor Ballivian's report, quoted on a preceding page, the following statement is given of the total exports of rubber from Bolivia for twelve years past, exclusive of 1899, for which no complete returns exist:

Pounds.	Pounds.	Pounds.
1890..... 646,800	1894.... 1,391,500	1898..... 6,943,100
1891..... 759,000	1895.... 1,804,902	1899....
1892..... 799,480	1896..... 2,509,566	1900..... 7,691,728
1893..... 868,600	1897..... 3,683,275	1901.... 7,623,138

From the *Boletín de la Oficina Nacional de Bolivia* of June 30, 1902, it appears that the exports of India-rubber, including

Caucho, during the year 1901 amounted to 7,623,138 pounds, distributed by custom houses as follows, values being stated in bolivianos [=19.3 cents].

	Pounds.	Value.
a Acre.....	5,054,436	6,474,000.40
b Villa Bella	1,749,205	1,600,843.72
c La Paz.....	627,783	863,741.90
d Suarez.....	167,543	195,914.60
e Oruro.....	24,171	17,232.99
Total.....	7,623,138	9,151,823.61

a Outlet for the rubber of the Acre district; shipped through Brazil to Manaos.

b At the mouth of the river Beni. Rubber shipped via the river Madeira to Manaos and Pará.

c Rubber shipped via Lake Titicaca to Mollendo, on the Pacific coast.

d On the river Paraguay, discharging through the Parana into the rio de la Plata. Rubber produced in the department of Santa Cruz.

e In the department of Oruro, south of La Paz. Rubber shipped to the Pacific coast.

The exports of rubber through Mollendo during 1901, included in the above total, according to the same report, were as follows:

To Great Britain.....	483,956 pounds.
Germany.....	98,737 "
France.....	8,649 "
United States.....	28,629 "
Total.....	619,971 "

The exports in the last line were to San Francisco.

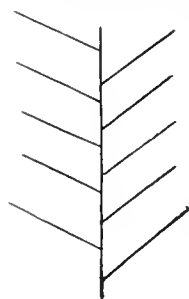
RUBBER CULTURE AND EXPLOITATION.

YIELD OF RUBBER TREES IN PERAK.

IN the annual report for 1901 on the government gardens and plantations of Perak, Taiping, Superintendent Robert Derry records his experiments in tapping Pará rubber trees.

The method adopted involves a vertical incision in the bark extending from the base some 4 feet up the trunk, with five oblique branch incisions on each side, as indicated in the illustration. Mr. Derry tapped two trees by making three sets of incisions in each—each set extending over something less than one-third of the circumference of the tree—and compared the results with that from a tree cut with only one set of incisions. He is of the opinion that very little more rubber is obtained from the more extensive tapping. The yield of rubber from the first two trees, of the same age and size, was 28¼ and 26½ ounces, respectively, while from a single set of incisions in a tree slightly older and larger, 32¾ ounces of rubber were obtained. The tapping was done in September last, the same incisions being reopened day after day, in the case of the first two trees eleven times, and in the case of the third tree, eight times. Two of the trees, ten years old, were 17 and 18 inches in diameter, respectively, three feet from the ground, and the third, fourteen years old, was 20 inches.

Thirty-two Pará rubber trees in the Taiping garden, about 12 years old, yielded 125 pounds of dry rubber, or an average of 3.9 pounds each. It appears that the best season for tapping is between June and November. The latex seems to exude most freely in wet weather, the occurrence of which varies in different years. Two rambong trees (*Ficus elastica*) about twelve years old, yielded 20 pounds of rubber. Four such trees in the garden yielded 70 pounds of rubber between December, 1900, and January, 1901.



TO EXPLOIT RUBBER IN ECUADOR.

THE Ecuador Rubber and Development Co. has been organized at Winnebago City, Minnesota, with \$1,000,000 capital, under an Arizona charter, to exploit natural rubber resources in Ecuador. The president is O. C. Retsloff, a jeweler and capitalist of Winnebago City. The vice president and assistant manager is E. T. Crowther, who has been a merchant in Winnebago City for several years, and will go to the company's property, near Esmeraldas, Ecuador, to assist in the direction of the business. The secretary, J. Henry Cross, is a merchant at Amboy, Minnesota, and the treasurer is the Hon. David Secor, a prominent citizen of Minnesota. The resident manager at Esmeraldas is Carl O. Retsloff, a relative of the president of the company.

GROWTH OF PARA RUBBER TREES IN SELANGOR.

THE Straits *Agricultural Bulletin* (June, 1902) presents a photographic view of eight Pará rubber trees under cultivation on the Bukit Rajah estate, with a statement of their age and dimensions as made by F. A. Calloway, as follows:

No.	Planted.	Girth.	Height.
1	April, 1898.....	19 50 in.	31 ft. 8 in.
2	End of 1898.....	12 "	36 ft.
3	April, 1898.....	23 "	33 ft.
4	Do	19.25 "	36 ft.
5	End of 1899.....	9 "	27 ft.
6	April, 1898.....	19 "	31 ft. 6 in.
7	Do	14.50 "	35 ft. 8 in.
8	Do	18.25 "	36 ft. 6 in.

SAN MARCOS RUBBER PLANTATION CO.

[Plantation near Palengue, state of Chiapas, Mexico. Offices: No. 817 Ashland block, Chicago, Illinois.]

INCORPORATED July 15, 1901, under Illinois laws; original capitalization, \$105,000. Own 21,000 acres, connected through the navigable river Chacamax, a branch of the Usumacinta, with the gulf of Mexico. The first development relates to 1000 acres, to be planted in rubber, 200 trees to the acre, no

other crops to be planted. Against these 1000 acres the company offer an equal number of "rubber harvest deeds," each representing the profit on the product of one acre, at \$200 cash, or \$300 payable in monthly instalments of \$4. Officers: *John W. Byam*, (lawyer) president; *Frederick Starr* (professor in the University of Chicago), vice president; *William R. Mumford* (of W. R. Mumford & Co., Chicago), treasurer; *James R. Hardy* (who resigned as United States vice consul general at Mexico city to accept the position), secretary and general manager; *Charles W. Rickard* (long resident in Spanish America and familiar with tropical planting), resident plantation manager at Palenque. The company hold out no promises of dividends before the rubber plantation shall have been sufficiently developed to yield them.

THE TEHUANTEPEC RUBBER CULTURE CO.

[Plantation "Rubio," Coatzacoalcas, canton of Manititlan, state of Vera Cruz, Mexico. Offices: No. 35 Nassau street, New York.]

THE general manager, A. B. Luther, reporting to the company September 1, states that 1500 acres referred to in previous reports had been cleared, burned, lined, staked, and planted, and at practically every stake a rubber plant was growing. He estimated that 1,250,000 of these trees would not require replacing, and such replanting as would be necessary to maintain a uniform stand would be done during the autumn. Considerable new clearing and planting has been planned for the first six months of 1903. The company have planted crops of corn and rice for supplying their own forces. They have done considerable building and erected 29 miles of telegraph wires for connecting the various parts of their property, and also for communication with Manititlan.

THE ANDES RUBBER CO. (BALTIMORE).

[See THE INDIA RUBBER WORLD, May 1, 1902, page 255.]

HENRY A. PARR, of Baltimore, president of this company, was reported on September 18 to have reached Guayaquil, Ecuador, on his way to visit the company's concession in Bolivia. Work was begun by the rubber gatherers on this property several months ago, and a shipment of rubber is now reported to be on the way from Mollendo—the company's shipping port—to the United States.

* * *

THE Oaxaca Association (Chicago, Illinois), writing to THE INDIA RUBBER WORLD of their rubber plantation in Vera Cruz, Mexico, state: "Some of our cultivated trees are five years old and show a satisfactory yield from the trees we have tapped—6 and 7 ounces of rubber per tree from two tappings."

=Emperor Menelik, of Abyssinia, seems disposed to encourage plantations by giving concessions of lands to foreigners. One recent experiment, conducted by two French gentlemen, involved the planting on a considerable scale, during two seasons, of Ceará rubber (*Manihot Glaziovii*), resulting in almost complete failure, owing to the great heat from the desert. Another planter, however, in the same country, obtained trees 3 to 4 meters high within 18 months from planting seeds of this species.

FUNGUS ON RUBBER.—Mention is made in the last annual report of the Ceylon government mycologist, J. B. Carruthers, of a fungus which grows on samples of Pará rubber grown in that colony. It grows more abundantly on samples treated with acetic acid. It is a species of *Syncephalis* and causes red workings in the sample, though not destroying its translucency.

NEW GOODS AND SPECIALTIES IN RUBBER.

A GOLF BALL WITH AN AIR CORE.

ADISON T. SAUNDERS, of Akron, Ohio (in the specification of United States patent No. 707,263), states that he is able to obtain greater resiliency than is possessed by a solid Gutta-percha ball, by forming within the ball a cavity to be filled with compressed air, and that this resiliency increases in proportion to the compression of the air, enabling him thus to supply all necessary rebound or resiliency for the whole ball, making it practicable to construct the ball of materials which of themselves would not successfully replace Gutta-percha. A ball made of Gutta-percha of the standard size, and having a cavity containing compressed air, would be of less than the standard weight, which may be compensated for by the use of metal filings, white lead, or other heavy substances. The inventor has used compounds of India rubber with non elastic substances in such proportion as to reduce the liveliness of the ball to the desired degree—such as wood, Gutta-percha, cotton, cork, straw, and the usual metallic ingredients for rubber compounds. The ball is built up by winding narrow strips of textile fabric, friction tape, or thread around an airtight lining of rubber, this air shell being made up as in the case of toy hollow rubber balls, except that instead of the single lump of self healing rubber usually attached to the inner surface, two lumps are used, at opposite points of the interior, to preserve the center of gravity. This ball, after being vulcanized, is covered with a layer of fiber in strips to prevent its inflation and distortion in subsequent operations. The air chamber being sufficiently charged with air by means of a hypodermic needle thrust through one or both of the self healing lumps of rubber, to be rendered rigid, is then wrapped until the proper size is at-

tained, when the air in the inner cavity is further compressed and the outer coating of Gutta-percha or India-rubber is applied.

SHAKESPEARE'S "SURE LURE" WEEDLESS BAIT.

RUBBER baits, as a rule—that is, artificial rubber frogs, and worms, and helgramite—have not been wholly successful in fish capture. The "Sure Lure," however, is said to do better,



and has the definite advantage of protecting the hooks from catching in weeds while trolling. It is, in brief, a seamless piece of rubber made very much in the shape of a finger cot, through the middle of which runs a wire shank. On this is molded a piece of rubber with three ribs designed to keep the rubber hood expanded while it is drawn through the water. This rubber hood is painted to represent live bait, and, by means of flanges hung in front of it, is given a whirling motion. When a fish strikes, the rubber collapses and the hooks come in play, and the next thing is to land him. It is said that very large catches of bass have been made with this hook, particularly in the Champlain region, where it is commonly called a "plug." As far as the hook is concerned, the apparatus is practically weedless. The flanges, however, that give the rotary motion, do catch on weeds more or less, but clear themselves easily. [William Shakespeare, Jr., Kalamazoo, Michigan.]

THE "FARRIER" RUBBER HORSESHOE PAD.

This pad was the invention of a man who is a well known expert in horseshoeing, and who put months of study upon the problem of producing a pad that should be in every way practical. A special point about it is that it is so constructed that the horse can be shod with a toe calk and still have the foot stand level. The value of this on icy pavements or on asphalt will at once be seen. As a horse in pulling strikes on his toes it will be seen where the value of the calk comes in, while the cushion relieves the concus-

sion so injurious to the joints and shoulder muscles. In most cases the tests prove that the "Farrier" hoof pad can be worn through two shoeings. [The Farrier Hoof Pad Co.; office and factory, Trenton, New Jersey; New York office, No. 35 Warren street.]

THE FOSTER RUBBER SOLE.

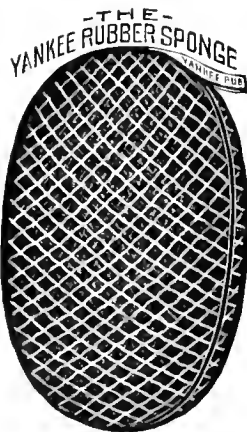
THE Anti-slipping Plug, made of friction duck, as applied to crutch tips and boot heels, has already been described in THE INDIA RUBBER WORLD. Its application to the rubber sole for shoes is well shown in the accompanying illustration. These plugs seem to be the best thing yet as a preventive against slipping, and also stand a great amount of wear. The patents are owned and the goods are manufactured by the Elastic Tip Co., No. 370 Atlantic avenue, Boston, Massachusetts.



THE YANKEE RUBBER SPONGE.

NOT the least of the novel features of the "Yankee Rubber Sponge" is the type of rubber used, and the amount. It is not in the interior, for that is filled with fragments of natural sponge. Nor does it seem to be present in the net that holds the fragments in place. The printed matter that accompanies this sponge speaks of the net as being "rubberized." To what extent this is done, who can tell? The net has no rubber odor, nor is it colored as even the most transparent cement would color it. Further than that, the fibers of the net absorb moisture about as readily as common un-"rubberized" cotton. Still all these points go for nothing, unless one knows exactly how much rubber

is needed to rubberize anything. The circular states that the sponge "can be rinsed thoroughly, as it will stand wringing like a wash rag" which, doubtless, is true. A patent has been applied for. [The National Sponge and Chamois Co., Nos. 158-160 William street, New York.]



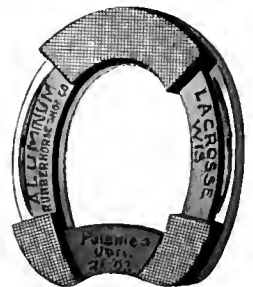
THE "VIVAYEUR" SCALP MEDICATOR.

THIS is a device planned for the application of lotions, as for the cure of dandruff or scalp diseases, may be applied without any moisture reaching the hair, or in any way changing the *coiffure*. The medicator is charged with the lotions or with cologne by removing the rubber bulb from the metal part, and replacing it when filled sufficiently. The application of the contents is effected by pressure upon the bulb. The comb teeth are hollow, and are to be kept clean by discharging warm water through them, by pressure of the bulb the same as in using an atomizer. [Selwyn Importing and Trading Co., No. 18 East Seventeenth street, New York.]



THE ALUMINUM RUBBER HORSESHOE.

THIS shoe is made of aluminum and rubber. The frame is aluminum, with a groove all around it into which the rubber is vulcanized, and held so firmly that it cannot pull out, producing a light and, at the same time, a strong and durable shoe. It has an exceptional area of soft tread as compared with other combination shoes of metal and rubber. In this shoe the rubber does not come in contact with the hoof, which point, in the opinion of the inventor, Mr. Kenney, is an advantage. The shoe may readily be punched by the blacksmith wherever he may see fit to put a nail. [Aluminum Rubber Horseshoe Co., La Crosse, Wisconsin.]



SOME NEW WOONSOCKET GOODS.

SINCE Superintendent Robson has been in charge of the factories of the Woonsocket Rubber Co., in addition to much other good work done there, new lasts have been made throughout, and the goods produced are showing a finish and style that leave little to be desired. Two recent additions to the Woonsocket list of styles are illustrated herewith—the "Rolled Edge" and "Service Heel," though the cuts do not really do justice to the goods, so far as the appearance of the latter is concerned. These goods are made in both first and second grades, being branded "Woonsocket" and "Rhode Island," respectively. By the way, such goods have not been offered before in "seconds," and the United States Rubber Co. do not offer the rolled edge and service heel goods as seconds with any other than the "Rhode Island" brand.



ROLLED EDGE.



SERVICE HEEL.

It is not generally known, but it is nevertheless a fact, that old rubber boots and shoes are becoming a very important article in the junk trade.—*Baltimore (Md.) News, August 15, 1902.*

NEW VENTURE OF THE UNITED STATES RUBBER CO.

THE management of the United States Rubber Co. of late have devoted no little attention to the development of their policy, referred to in the report of President Colt read at the last annual meeting, of importing direct their requirements in crude rubber. The company being larger consumers of crude rubber than any other company in the world, it was anticipated that they would be able to make exceptionally advantageous terms in the purchase of raw material. While the company for some time past, as stated in President Colt's report [see THE INDIA RUBBER WORLD, June 1, 1902, page 295], have been importing crude rubber under their own letters of credit, they have, as a matter of fact, made their purchases in the same markets as other importers at New York and Liverpool, for which reason it has been felt that the fullest possible benefits from the new policy have not been realized. The company have transferred their buying in part from New York to Pará and Antwerp, but in the new development of the crude rubber interest, these centers may not continue to be the primary markets for rubber.

One matter which has been under consideration has been the acquirement of an interest in the Bolivian Syndicate—the company organized to develop the Acre concession from the Bolivian government, which concession some time ago brought out so spirited a protest from the government of Brazil. It now appears likely that, the lapse of time having given an opportunity for a fuller understanding of all the points involved, the grant from Bolivia will yet be perfected, and the original plans of the *cessionnaires* be carried out, with perhaps a few modifications to remove the principal ground of protest by Brazil. As a result of such a community of interest with the Bolivian Syndicate, the United States Rubber Co. would be in a position to secure direct from the Bolivian territory covered by the Acre concession, so much of the rubber produced there as they may require—and the company's consumption of rubber of the Pará grades is now greater than the total present production of rubber in Bolivia.

It is understood that the United States company have under consideration plans also for an important arrangement looking to equally direct purchases of rubber from the Congo Free State, instead of, as in the past, making their purchases of this class of rubber at the inscription sales in Antwerp. The principal production of Congo rubber, as is well known, is under control of a few large trading companies, having concessions from the Congo Free State, in consideration of which the state owns shares—in some cases as much as 50 per cent.—of the capital of these companies, so that the state is practically, if not in name, a very large marketer of crude rubber. The king of the Belgians is the sovereign of the Congo Free State, and by reason of his large investments in Africa he stands in the relation practically of proprietor of the state, and of its holdings of company shares. While in Europe recently, President Colt

conferred with King Leopold in regard to the rubber situation, and, while the details are not yet sufficiently developed to be made public, plans for securing an interest in some of the Congo companies are being considered by the United States Rubber Co. In case they should be perfected, there is reason to suppose that, in time, cargoes of rubber direct from Boma on the Congo will be arriving at New York as well as at Antwerp.

At the regular monthly meeting of the board of the United States Rubber Co., on September 18, the question of subscribing to the capital stock of the Bolivian Syndicate, and of entering into a contract to purchase such rubber as may come into the hands of the Syndicate through its exploitation of the Acre concession, was discussed at length, and referred to the executive committee of the board, which, at a meeting on September 25, voted to accept the proposition made on behalf of the Bolivian Syndicate, provided that it should be found that

the situation as outlined in the proposition made by the Syndicate was as represented. It is further understood that, in the event that the negotiations between the United States Rubber Co. and the Bolivian Syndicate are concluded, the king of the Belgians, or the interests which he is commonly reported to represent, will also become concerned to an important extent in the development of the Acre concession. A special meeting of the board of the United States Rubber Co. will be held shortly to confirm the action of the executive committee.

The Acre concession has been referred to at length in several issues of THE INDIA RUBBER WORLD, and on April 1, 1902 [page 223], appeared a map of the districts covered by it. The concession is in two parts, in fact, covered by contracts between the government of Bolivia, on the one hand, and Sir Martin Conway, of London, and



LEOPOLD II.

The King of the Belgians, who has been described as "the greatest rubber merchant in the world."

Mr. F. W. Whitridge, of the law firm of Carey & Whitridge, No. 59 Wall street, New York, respectively, on the other. To cover the preliminary proceedings in connection with this concession, The Bolivian Co. has been incorporated under the laws of West Virginia. It is now proposed to perfect the organization by forming a company with \$5,000,000 capital, the proportion of which to be taken by the United States Rubber Co. is not yet stated. With respect to the Caupolican district [see the map above referred to] the Bolivian Syndicate will exploit rubber and other products of the country in the same way that concessions of lands in Bolivia are ordinarily worked, collecting the products through its own employes and marketing them. With regard to the larger district, however—the Acre territory—the Syndicate will act in an administrative capacity, granting concessions in place of the government, collecting the revenue due the state, promoting works of public improvement, and undertaking to preserve order throughout the district. Existing concessions from the government and vested rights of whatever nature are to be respected. The Syndicate will be, however, in a position to acquire rubber.

OUR OBITUARY RECORD.

ROBERT COWEN.

ROBERT COWEN, who had been connected with the Boston Woven Hose and Rubber Co. since its original incorporation, in 1880, filling successfully the positions of superintendent, vice president, and technical manager, after an illness of about three weeks, passed away at his home in Cambridge, Massachusetts on September 12. Born at Plymouth, Massachusetts, September 21, 1849, Robert Cowen started early in life as a machinist's apprentice at Worcester. His introduction to the rubber industry was in a little factory opposite the present site of the great plant of the Boston Woven Hose and Rubber Co. in 1873, when, as an expert machinist, he was called to assist James E. Gillespie in perfecting a loom for the weaving of multiple tubular fabrics. This enterprise was backed by Colonel Theodore A. Dodge, and the experimenting then begun was continued during seven years, in which time \$150,000 had been spent in reducing a most intricate machine to a simple practical mechanism. This being done, the Boston Woven Hose Co. was formed for the manufacture of cotton rubber lined fire hose, with Robert Cowen as superintendent and one man and one boy as factory force.

It was not long, however, before a large factory was projected, capital added, and a full line of mechanical rubber goods put on the market. In 1888 the company was reincorporated as the Boston Woven Hose and Rubber Co., with Mr. Cowen as vice president, in addition to his other position. As superintendent of the concern, Mr. Cowen from the beginning rapidly grasped the basic facts about rubber in all its branches and became in a very short time an expert rubber man. His knowledge of machinery also enabled him to produce many labor saving machines and devices, many of which he patented. He was an excellent organizer, and while energetic and forceful and working his help hard, he never spared himself, and was fairly idolized by his men. Perhaps as high a compliment as can be paid to Robert Cowen is that during all the years he was, as superintendent, helping to build up this great industry, he never had a strike, a shut down, or a lockout. He was a forceful, active factor in mechanical rubber lines, and was one of the best known superintendents of his day, and to him, in a large measure, was due the success of the company with which he was connected. For a young man—he was only 53 at the time of his death—his reputation as factory manager, inventor, and organizer was remarkable. Perhaps no other quality in him was more conspicuous than his courage, which was of the highest order, and was quenched by no sort of reverse, his last words to his sorrowing family being "Be brave."

The funeral services were held at the late residence of Mr. Cowen, in Cambridge, on the afternoon of September 16, his pastor, the Rev. Dr. George W. Bicknell, of the First Universalist church of that city, and a warm personal friend, officiating. It was Mr. Cowen's wish that the services be extremely

simple, and that wish was respected. They consisted of appropriate selections rendered by a quartet, scripture reading, a modest eulogy by Dr. Bicknell, and prayer. A further short service was held at the cemetery, where hundreds of employees of the Boston Woven Hose and Rubber Co. were in attendance. There were present at the house delegations from business houses, clubs, and Masonic lodges to which Mr. Cowen belonged, as well as leading rubber men from all parts of New England, and more from distant parts of the country. In addition to the board of directors and the heads of departments of the Boston Woven Hose and Rubber Co., who attended the services at the house, were A. M. Paul, general manager; Thomas G. Richards, superintendent; E. H. Huxley, Chicago manager; and J. V. Selby, Pacific Coast manager. John H. Forsyth and George P. Whitmore of the Boston Belting Co.; Arthur W. Stedman and H. W. French of George A.

Alden & Co.; C. H. Arnold of Reimers & Co.; Henry C. Pearson, publisher of THE INDIA RUBBER WORLD; A. L. Comstock, superintendent of the American Rubber Co.; Otto Meyer, and many others were also present.

The floral tributes were magnificent, and came from the employees of the Boston Woven Hose and Rubber Co., the New England Rubber Club, the U. S. Rubber Reclaiming Works, the Plymouth Rubber Co., Cambridge lodge of Free Masons, the Royal Arch Chapter, Cambridge Commandery, the Ten Associates, the Twenty Associates, and many others. The pall bearers were John S. Morrison, Morris Davenport, Robert C. Harlow, and Fred Ripley.

The following resolutions, beautifully engrossed, were sent to the family and to the general manager of the Boston Woven Hose and Rubber Co., by the



THE LATE ROBERT COWEN.

New England Rubber Club:

WHEREAS—Death has suddenly removed from our midst our long time friend and fellow member Robert Cowen, we, the members of the New England Rubber Club, are moved by our sense of loss to record the following resolutions:

Resolved—That in the untimely death of our friend the trade of New England loses a forceful, energetic, and brilliant man, and our Club one of its most enthusiastic and valued members. Strong, courageous, sincere, of rare technical and inventive ability, the name of Robert Cowen will be long remembered by us with respect and affection.

Resolved—That we extend to his family, and to the corporation with which he was for many years so closely identified, our deep sympathy.

Resolved—That these resolutions be spread upon the records of the Club, and copies be engrossed and sent to his family and business associates.

ARTHUR W. STEDMAN	} Committee Resolutions.
EUGENE H. CLAPP	
GEORGE P. WHITMORE	

Mr. Cowen was twice married. In 1869 he wedded Miss Emma Thomas, of Worcester, who died in 1884, survived by one daughter, Mrs. Morris Davenport, of Brooklyn, N. Y. In 1891 he married Miss Emma E. Rawson, of Cambridge, who survives with three sons—Rawson R., Robert, Jr., and Theodore

ALEXANDER C. OLIPHANT.

ALEXANDER C. OLIPHANT, treasurer of The United and Globe Manufacturing Cos. and adjutant general of New Jersey, died at his home in Trenton on September 16, from acute Bright's disease. He had been stricken with paralysis three days before, and remained unconscious most of the time until his death. General Oliphant was born March 25, 1860, at Uniontown, Pennsylvania, and at the age of seven removed with his family to New Jersey. He was a son of General S. Duncan Oliphant, who served his country with distinction during the civil war and who for more than thirty years has been clerk of the United States circuit court for the district of New Jersey. Alexander Oliphant was the sixth of a family of ten sons, all the rest of whom survive. He received his early education at Pottstown, Pennsylvania, and in the State Model School at Trenton, and was graduated from the United States Naval Academy in 1881. He was assigned to the United States ship *Lancaster*, then flagship of the European squadron, and was in the force landed at Alexandria in July, 1882, to repulse the anticipated attack on that city by the Egyptian rebels. He was discharged from the navy by an act of Congress reducing the number of naval officers of all ranks. He served on the staff of Major General William J. Sewell in the national guard of New Jersey, and at the outbreak of the war with Spain was made military secretary of Governor Voorhees, and at the conclusion of the war was made assistant adjutant general. He became adjutant general in 1900.

General Oliphant began his connection with the India-rubber industry when the Globe Rubber Works was founded at Trenton by Brook, Oliphant and Co., the firm being composed of James F. Brook, Alexander C. Oliphant, and the late Samuel K. Wilson. About eleven years ago this firm was dissolved and the Globe Rubber Works was continued under the ownership of Mr. Wilson. Shortly after that date the United Rubber Co. was organized at Trenton, to do a jobbing trade in rubber goods by Watson H. Linburg, Welling G. Sickel (since mayor of Trenton), and Mr. Oliphant, the latter being treasurer of the company. They did a high class trade and built up an extensive business among the railroads and in the mining industry, and for several years many of the goods sold by them were manufactured by the Globe Rubber Works. The two concerns were finally consolidated under the name of The United and Globe Rubber Manufacturing Cos., for which a certificate of incorporation was issued July 25, 1899, and of which Alexander C. Oliphant was treasurer, filling this position during the rest of his life. General Oliphant married a daughter of the Hon. Stephan B. Elkins, senior United States senator for West Virginia, who survives with several small children.

The funeral on September 18 was attended with full military honors. The services were conducted at the residence by the Rev. John Dixon, D.D., former pastor of the First Presbyterian church of Trenton, of which General Oliphant had been a member. The long list of honorary pall bearers included Governor Murphy, former Governor Voorhees, Captain William W. Brownson, of the United States naval academy; Colonel A. L. Mills, superintendent of the United States military academy at

West Point; Robert E. Paterson, former governor of Pennsylvania; Messrs. Linburg and Sickel above mentioned; John S. Broughton, secretary of the rubber company; officers of the New Jersey national guard, and several others. A handsome floral tribute came from General Oliphant's class at the naval academy. Other elaborate pieces came from the employes of the rubber works, from Governor Murphy and other state officials, from Senator and Mrs. Elkins, from Senator and Mrs. Davis, also of West Virginia; and very many others. The funeral escort consisted of the Second regiment and Battery B artillery. The funeral was attended by many members of the rubber trade.

THE COTTON DUCK MARKET.

MANUFACTURERS of rubber goods in connection with which cotton duck is used have been making their annual contracts, and it is estimated that fully 75 per cent. of these have already been placed for the coming year beginning with October 1. The high price of raw cotton which has been in evidence for some time past, with no promise of a decline,

has had a tendency to cause manufacturers to enter the fabric market earlier than usual this year, in the hope of covering their requirements for the season at as low prices as possible, and there is no question that those who have placed their orders have succeeded in securing better rates than those who are holding their orders back. There is nothing in sight at the moment to warrant a buyer of anything in the line of cotton to look for cheaper material for some time to come, but, on the other hand, cotton continues to display an upward tendency, and the Southern mills that make the greater part of cotton duck and heavy brown sheeting are paying to-day $\frac{1}{2}$ cent a pound more for raw cotton than they were a week ago.

Shrewd buyers, however, are not disposed to place implicit reliance upon the reports that the cotton crop is unusually

light, and declare that the market is a speculative one, which will in due time witness a slump in prices. However this may be, rubber manufacturers are compelled to have the cloth, at whatever price, and they have been buying more heavily than ever before. That the rubber trade is on the up grade is evidenced by the fact that manufacturing concerns which have heretofore placed orders for from 3000 to 5000 rolls to carry them through the year, have raised their limit to from 5000 to 8000 rolls. It is true that they have paid a higher price than last year, but concerns which contract for the year have been favored with a minimum rate.

Manufacturers of rubber hose and belting ordinarily use cotton duck 42 inches wide and weighing from 28 to 32 ounces to the yard, the nominal price of which is at present quoted at 19 cents per pound. This same class of fabric sold last year at 17 cents. In contracting for a year's supply rubber manufacturers, of course, secure a better price than this. For the special make of duck intended for fire hose and air brake hose an advance of 3 cents is charged. And a much larger demand is coming forward for this class of goods, on account of the new equipments which railroads are constantly making. Then, too,



THE LATE GENERAL OLIPHANT.

new rubber factories are coming into existence constantly, among the latest of which may be noted those started at Trenton, New Jersey, and Youngstown, Ohio, for the manufacture of mechanical rubber goods.

During the past year several of the large mills consumed their stock of cotton duck before the season ended and were compelled to visit the market for new supplies. Of course these duplicate orders were not accepted at old prices, an advance of from 2 to 3 cents a pound being charged.

Manufacturers of rubber boots and shoes, as a rule, buy their textile goods about as they need them, instead of making yearly contracts. In the manufacture of these goods large quantities of brown sheeting is consumed, mostly of Southern make. Prices are subject to the control of raw cotton, and for the past month or so the market has been fluctuating considerably. To-day prices are held firmly at about the following level: Forty-inch 2.50, $6\frac{3}{4}$ cents per yard; 40-inch 2.70, 6 cents per yard; 40-inch 2.85, $5\frac{5}{8}$ cents per yard; 40-inch 3.60, $4\frac{3}{4}$ cents per yard; 36-inch 3 yard, $5\frac{1}{4}$ cents. These prices are about $\frac{1}{4}$ cent above those ruling last week, and are likely to advance further in the wake of raw cotton. Consumers of brown sheeting usually make their orders date from November 1, and a large number of these mills have already been in the market and placed their orders ahead. In many instances agents have refused to accept orders for late deliveries at current prices, and rubber goods manufacturers have been obliged to pay substantial advances for osnabergs and lighter weight cloth thus ordered ahead. As an indication of the confidence in the perpetuity of high prices, it can be cited that some rubber mills have offered to make contracts six months ahead from January next at current rates, for brown sheetings, but it cannot be learned that any mills, either in New England or in the South, have availed themselves of such propositions on account of the continued skylarking of raw cotton.

The fabric market is quite satisfied at the trend of trade, and are anticipating a greater volume of business from the rubber industry during the coming year than at any time in the history of the enterprise. So far as can be discovered, the present high prices being obtained for cotton ducks and sheetings have not served as a restraining factor in the operations of buyers.

THE PACKING OF OLD RUBBER SHOES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the signing of what is known as the "Standard Packing of Old Rubber Boots and Shoes, April 2, 1900," the Rubber Reclaimer's Association, which was the author of that circular, have practically passed out of existence, and although the agreement between the reclaimers at that time has practically been in force since, there have been of late in buying old rubber boots and shoes a great many interpretations of just what "Standard Packing" really was, and it seems to me that it behooves some one interested in the trade to make the initiative move necessary to make a public interpretation of that circular as it is understood to-day by the trade in general. Some of the reclaimers' idea of the aforesaid circular varies considerably from that of others, which causes considerable difficulty at times, owing to the fact that some are more lenient than their fellow reclaimers. This leads to dissatisfaction between dealers and reclaimers who adhere strictly to the terms of that circular and give to the lenient ones an unjust preference in price. It is a well-known fact that, by the use of what is called "magnets," metal can be removed mechanically from ground rubber at a much less expense than it can be done by

manual labor, and as any lowering in the cost of producing a manufactured article is admitted by the manufacturers to be advantageous to the trade as a whole, I believe that I am making a step in the right direction when I offer the following suggestions as a remedy to the evils that now exist in the old rubber boot and shoe trade.

It is, perhaps, rather indelicate to call the new circular which I offer by my name, and I do so only because no name presents itself to me which would be distinctive from the terms previously used and to avoid confusion which would naturally arise by the use of the old name.

In closing I would again repeat that I offer the term, "Coleman Packed Old Rubber Boots and Shoes," simply as a suggestion and leave it to the manufacturers or to the Rubber Reclaimers Association, if enough of it remains to do so, to invent a proper name for the new Standard of Packing. I think also that the time is ripe for the reclaimers to stand by their former agreement of "no tare allowance on foreign stock."

W. C. COLEMAN.

Boston, September 25, 1902.

COLEMAN PACKING OF OLD RUBBER BOOTS AND SHOES.

OCTOBER 15, 1902.

I. DELIVERIES of old rubber boots and shoes must consist entirely of boots and shoes of Domestic manufacture—Canadian manufacture to be considered Domestic.

II. They must be dry and free from dirt.

III. Tennis shoes or tennis soles shall not be accepted.

IV. Old rubber boots and shoes shall be considered "Coleman Packed" when they are free of cloth arctic tops and leather soles, and when they are put up in accordance with the other stipulations as contained in this circular.

a. Buckles, rivets, eyelets, and nails in the sole or heel to be accepted as "Coleman Packed" stock.

V. Old rubber boots and shoes shall be bought and paid for net weight—i.e., no allowance for bagging or covering of any kind shall be made, nor shall the same be returnable to the seller.

VI. Foreign old rubber boots and shoes contained in a delivery of Domestic old rubber boots and shoes shall be paid for at a reduction of two cents per pound.

VII. All Domestic rubber boots and shoes shall be bought on weight as determined at destination.

VIII. Old rubber boots and shoes of Foreign manufacture shall be bought on same conditions as those of Domestic manufacture—i.e., port of entry.

IX. The term "Coleman Packed" shall apply to all purchases and sales of Domestic or Foreign old boots and shoes, made in accordance with the stipulations of this circular.

[I believe that the above could be advantageously applied to the trade by October 15, 1902.]

LITERATURE OF INDIA-RUBBER.

THE conservator of forests for Burma, Mr. F. B. Manson, has prepared a catalogue of forty-eight "Burmese Rubber Yielding Plants," which forms "Commercial Circular No. 4 of 1901," issued by the reporter on economic products to the government of India (Calcutta.) While this list embraces several domesticated species—*Hevea*, *Castilloa*, *Landolphia*, etc., still the number of native species is larger than had been before enumerated. The value of several of them is yet to be estimated, but the collection of their latex has been undertaken with a view to its analysis at the scientific department of the Imperial Institute, in London.

* * *

LIANES a Caoutchouc du Haut-Laos et de l'Annam Septentrional. Leur station; principes de culture. By E. L. Achard, inspector of agriculture in Cochinchina. = *Bulletin Économique de l'Indo-Chine*, Hanoi. V-3 (February, 1902). pp. 91-112.

RUBBER EXHIBITS AT THE FIRE CONVENTION.

THE exhibits of rubber goods in connection with the thirtieth annual convention of the International Association of Fire Engineers, at the Grand Central Palace, in New York, September 16-19, were quite varied, and on the whole well arranged. It might have been better, however, had the hose exhibits been grouped in one part of the hall, with the rubber tire exhibits adjacent, though perhaps this may not have pleased all of the exhibitors.

Notable among the fire hose exhibits was that of the Eureka Fire Hose Co. (New York), who had gone to considerable expense in making a pyramidal case of oak and glass, with an upright cabinet on either side, and the whole surmounted by a huge eagle, in representation of the trade mark of the company. In these cabinets and under the glass, away from the dust and handling—a point of importance—were displayed the company's full line of fire hose fabrics, marked with their various trade marks.

The next important exhibit was that of the Fabric Fire Hose Co. (New York), which occupied a space near the middle aisle, in which were displayed, on counters draped in red, rows of fire hose, and also samples of crude Pará rubber and of the wax used in treating the company's fabrics, while on either side stood a rubber tree and a cotton plant in blossom.

The Gutta Percha and Rubber Manufacturing Co. (New York) had an exhibit of Baker Fabric hose, rubber landing mats, and quite a variety of other goods which they manufacture for fire department use.

The Boston Woven Hose and Rubber Co. (Boston) had a small but well arranged exhibit, draped with American flags, showing their specialties in fire hose, and also a full line of brass work such as they manufacture in connection with this industry.

An important feature of this exhibit, which has been developed only in recent years, embraced rubber tires for fire engines and other wheeled apparatus. The manufacturing companies represented in this department were The Hartford Rubber Works Co., The Consolidated Rubber Tire Co., The India Rubber Co. of Akron (showing the "Wheeler Endless" tires), and The Goodyear Tire and Rubber Co. Not only were specimens of the various tires shown, but illustrations were on hand of the largest size engines and trucks employed by the fire departments, equipped with rubber tires manufactured by the companies exhibiting.

Other goods shown representing the rubber trade were firemen's rubber coats and mackintosh jackets, firemen's rubber boots, rubber smoke protectors for the protection of the faces of firemen while at work, rubber hub bands for the wheels of engines and trucks, and so on. The National India Rubber Co. (Bristol, Rhode Island) showed their regulation and double coated patrol covers. A. H. Finley & Co. (Lynn, Massachusetts) showed waterproof clothing fastened with their "quick hitch" appliance. Another exhibit was that of Wigg's patent rubber tire support, for relieving solid rubber tires of the weight of the vehicle when not in use.

Many of the leading rubber men in mechanical lines were in attendance. In fact, nearly all of the companies had representatives on the ground meeting the fire chiefs. This association has steadily gained in strength and importance since its first meeting in Baltimore, October 20, 1873, and now has over 400 act-

ive and associate members. England and Australia were represented in the attendance. Edward F. Croker, chief of the New York fire department, was elected president of the association for the ensuing year.

AMERICAN BILLIARD CUSHIONS.

THE production of billiard tables in the United States is reported now to be greater than in any country, many tables made here being exported. "A fair estimate of the amount of business done in this country every year in the making of billiard tables and supplies is \$5,000,000," says a member of the trade quoted in the New York *Sun*. The same authority continues:

"Different parts of the world contribute to the material used in the construction of billiard tables and accessories. The cloth is made in Belgium, the ivory comes from Africa, the wood from this country—except the fancy woods—and the rubber comes in its crude state from South America and Africa. No small part of the business is the making of the cushions. Pará gum is the foundation material for cushions and of the amount imported to this country annually between 300,000 and 400,000 pounds are used for billiard cushions alone. Akron, Ohio, is the billiard cushion center of the world. The cushions made here easily excel any others. Most of the tables made abroad are equipped with the American-made cushion."

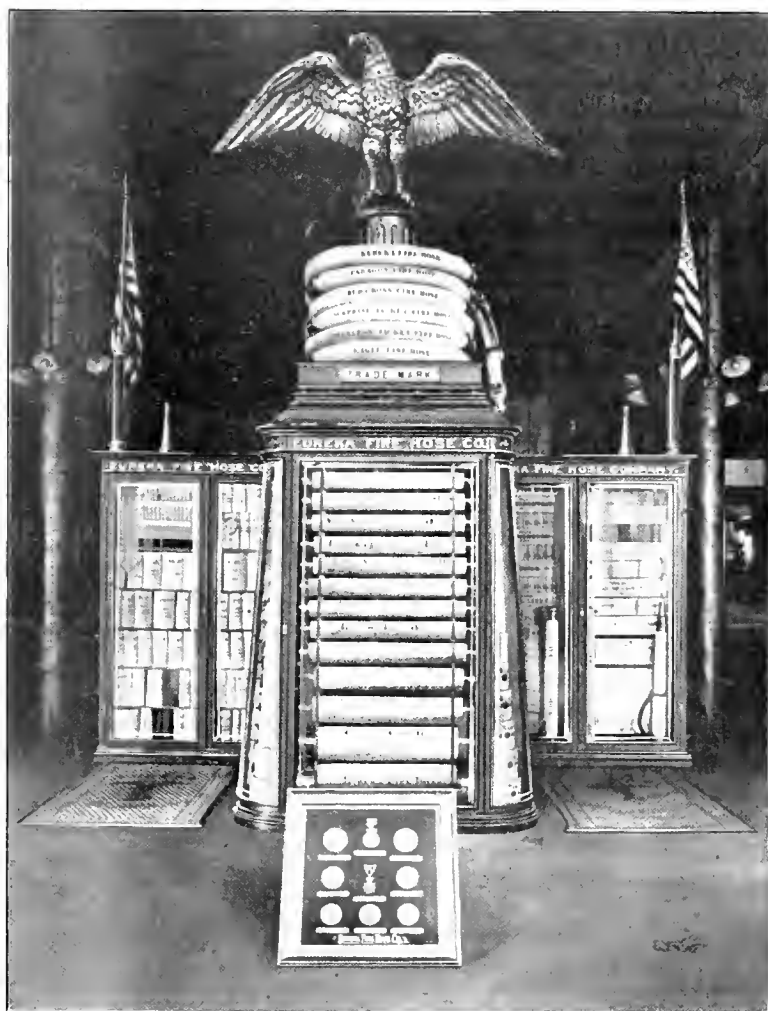


EXHIBIT OF THE EUREKA FIRE HOSE CO.

WHAT THE RUBBER TRUST LOOKS LIKE.

HERE is the latest picture published of the Rubber Trust, a product of the clever pencil of Mr. F. Oppen, to be found in the *New York Journal* of September 10. Mr. Trust is shown running over the hills to get his share of fresh tariff plunder. This picture is not quite what the *New York World* had led us to expect, but then newspapers cannot be expected always to agree. According to the *World* the Rubber Trust is



"a monster of at least two heads, clearly defined and of most forbidding aspect," with "a clue to a third head, which is carefully kept out of sight." But what this creature does is of more consequence than what he looks like. "Everything made of rubber in the world, certainly in America, is controlled by the Rubber Trust," says the *Cleveland Plain Dealer*, with the result that the people must pay extortionate prices. The monster even puts up

the price of its own raw material. The *New York World* said: "The Rubber Trust increased the price of rubber from 94 cents on January 4, 1889, to \$1.45 on January 3, 1900." But this concern meddles with a lot of other matters. Only lately we read in a Washington City paper that just after the president of the Rubber Trust dined with the president of the United States a revolution broke out in Brazil—to further the ends of the Trust—and the same writer had an idea that the late trouble over the Acre concession, in Bolivia, had a similar origin. If any one should wonder what makes this "hydraheaded monster" so influential, let him consider how much money it has. Somebody in Iowa wrote to THE INDIA RUBBER WORLD that when several shares of one rubber company were needed, to secure control of it, "the Trust paid \$250,000 each in order to get them." The *New York Journal* once told how the Rubber Trust had "accumulated \$5,000,000 more than it has dared to divide." President Roosevelt ought to know about this Trust.

NEW TRADE PUBLICATIONS.

THE MONARCH RUBBER CO. (St. Louis, Missouri), departing from the usual form of catalogues of rubber footwear, have issued to the trade a publication of 12 pages, larger than THE INDIA RUBBER WORLD size, devoted principally to an account of "How Rubber Boots and Shoes are Made," by Mr. W. E. Hemenover, secretary of the company. This paper deals with the origin and nature of crude rubber, with illustrations of rubber working on the Amazon; a description of rubber factory processes, with cuts of machinery used in the Monarch company's establishment; and an account in detail of the construction of rubber boots and shoes. On alternate pages of the publication are illustrations of the Monarch company's "Buckskin" and other brands of rubber footwear—the whole making a trade circular more than usually interesting and attractive.

THE BALTIMORE RUBBER CO. (Baltimore, Maryland) send us a handsome Net Catalogue for the season of 1902-03, de-

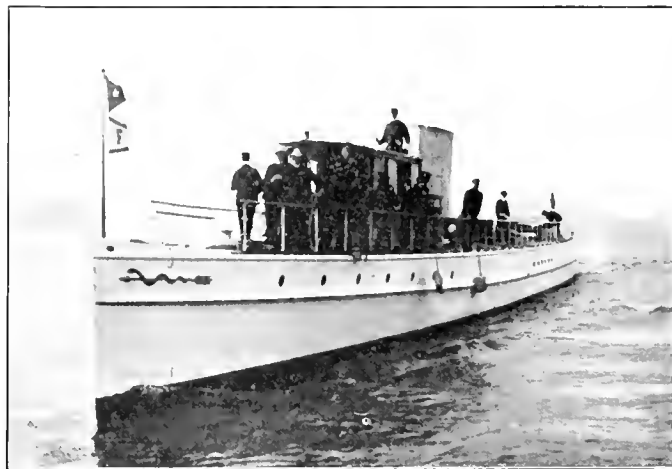
scribing and illustrating a wide range of rubber goods carried by them as selling agents for The Boston Rubber Shoe Co., Stoughton Rubber Co., New York Belting and Packing Co., Limited, and The United States Rubber Co., manufacturers of the "Candee" and "Woonsocket" goods. The catalogue embraces rubber footwear, clothing, sporting goods, and mechanical goods, giving prices on a very large number of articles. [6½"×9¼". 62 pages.]

HODGMAN RUBBER CO. (No. 593 Broadway, New York) issue a fashion plate, showing their "Alexombric" rain coats, in four styles, for men and women, folded in a convenient shape in a cover of paper having the appearance of cloth treated under the process by which these goods are made, the whole making an attractive looking package.

H. W. JOHNS-MANVILLE CO. (No. 100 William street, New York) issue a catalogue of their great variety of asbestos Electrical Supplies, including many items involving the patented compound of India-rubber and asbestos which they call "Vulcabeston." [4½"×7½". 103 pages.]

MR. FLINT HAS THE FASTEST YACHT.

THE steam yacht *Arrow*, built for Mr. Charles R. Flint of New York, was turned over to her owner and formally put in commission on September 6, after a final test for speed which resulted in the fastest mile ever made by a steam vessel. A measured nautical mile on the Hudson off Irvington was covered in 1 minute 32 seconds, at the rate of 39.13 knots, or nautical miles, an hour. The boat was designed



THE YACHT "ARROW."

to attain a speed of 40 knots. The record was equal to one statute mile (5280 feet) in 1 minute 19⅓ seconds, or 45.06 miles an hour. The best previous record was at the rate of 36.5 knots, or 42.25 statute miles, by the English torpedo destroyer *Viper*, of the turbine type. The *Arrow* is a twin screw boat, 130 feet over all, 12 feet 6 inches beam, 4 feet 7 inches draft, and displaces about 66 tons. Two triple expansion engines of 4000 H.P. turn her screws at the rate of 600 revolutions a minute. The designer is Charles D. Mosher; the steel hull was built by Samuel Ayres & Sons, at Nyack, N. Y.; the boilers were made at Elizabeth, and the engines and auxiliaries at Newark, New Jersey. During the recent visit to the United States of the Russian grand duke Boris, a cousin of the czar, he was entertained by Mr. Flint on August 30, being taken up the Hudson to West Point on the *Arrow* at a rate of speed, for a yacht, new to this experienced traveler.

JOTTINGS FROM MANAOS,

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Acre concession still seems to worry the people in power in Amazonas, and now they have prohibited the transit of goods to or from Bolivia via the Amazon. This affects not only the Acre district, but also the Bolivian possessions on the Beni river, which is not disputed territory.

If the maritime powers would only combine to induce Brazil to open all the navigable affluents of the Amazon and declare it open to the Atlantic ocean, stationing an international squadron in these waters, it would be the most practical way of quieting northern South America.

There are rumors of trouble on the Acre in the way of revolutions. It is difficult to acquire exact knowledge of what goes on there, but it seems that some of the Brazilians resident in the district are trying to overthrow Bolivian rule. From what I know of the Acreans personally, I don't think that the Bolivian Syndicate would have much trouble in quieting them; it is only a question of coin. If the people now on the ground are left undisturbed in their homes, and are able to sell their rubber at fair prices and buy goods at decent prices, there will be no trouble at all for the Syndicate.

Luiz Galvez, who at one time tried to make an independent state of Acre, has been sent, a prisoner, to the rio Branco, which forms one of the biggest scandals in the history of Bolivian justice. It would be unfair, however, to judge all Brazil by a single state.

The action of the state governor at Manáos in imposing duties on rubber coming from Bolivia has raised a perfect storm of protests and legal actions, and a new journal will be started here to oppose the measure.

The governor of Amazonas has sent Dr. Porfius Moguiera to New York, and Dr. Eneas Martius to Paris and Brussels, to try to raise the new loan of £1,500,000, to "consolidate the debt." Nearly all the holders of the state bonds have protested against the consolidation.

Mr. Charles S. Seibert, of New York, has arrived at Manáos with the electric lighting plant ordered for the town of Labrea, and will proceed with it soon to that point. Mr. C. J. Anchas, an American, is at Manáos, experimenting with wireless telegraphy. The National Business Men's Association, of Chicago, United States, has elected Mr. Antonio Bacellar, of the firm of A. F. Barbaza & Co., one of the largest importing firms at Manáos, as consulting member. The work on the Manáos harbor improvement has begun.

The Manáos chamber of commerce has received a sample of "Pará rubber" grown in Ceylon, which has caused a considerable sensation.

IGNACIO.

* * *

A CORRESPONDENT writes from Pará: "The Brazilian government, by breaking off the negotiations for a new commercial treaty with Bolivia, has suddenly put a stop to the free transit of goods to and from Bolivia. The purpose of this brusque measure, its necessity, and justice, are not quite clear yet, but are supposed to be intended as a punishment directed against Bolivia for entertaining the idea of letting her newly acquired territory on the river Acre to a foreign syndicate. As the trade with that district is chiefly in the hands of Pará and Manáos merchants, the effect of the measure is likely to be as mischievous and prejudicial to the Brazilians as to the Bolivians. The latter, however, will be serious sufferers in their Beni commerce, in which the foreign element is largely interested, besides. The development of this affair is being watched with no little concern."

CHANGE IN A HAMBURG FIRM.

THE hard rubber business at Hamburg and Harburg a/d Elbe, Germany, of which Dr. Traun has for many years been proprietor, has undergone a change in title, as indicated by a recent circular, of which a translation follows:

WE hereby inform you that this day the sons of our Senator Dr. Heinr. Traun, the Messrs. Heinr. Otto Traun and Dr. Friedrich Adolph Traun, enter as partners into our business, which will continue without change under the name

DR. HEINR. TRAUN & SÖHNE,
vormals Harburger Gummi-Kamm Co.

We beg you to send all correspondence to the new firm Hamburg 8, Meyerstrasse 59, and to take notice of the following signatures. Respectfully,

HARBURGER GUMMI KAMM CO.
HEINR. TRAUN.

Hamburg and Harburg a/d Elbe, August 15, 1902.

The signatures referred to are those of the partners above named and the following procurators: Herm. Colpe, Eduard Debes, Adolph Lübens, Paul Fischer, Heinr. Heincke, and Heinr. Helms.

The business here referred to dates back to 1818, when it was owned by H. C. Meyer, a manufacturer of canes. In 1851, as the Harburger Gummi-Kamm Co., it began the manufacture of hard rubber goods under the Goodyear patents, and in 1863 Dr. Traun became interested in its management. Since 1884 he has been sole owner. The business under his management always has been successful, and Dr. Traun, two or three years ago, said to the writer that if he would consent to its becoming a public company, a large increase in capital would readily be available, but he preferred that the control should remain in his family. The company maintain branches in London, New York, and other important centers.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED AUGUST 5, 1902.

- NO. 706,021. Device for inflating pneumatic tires. Frederick W. Claesgens and John G. Magin, Rochester, New York, assignors of one-third to George A. Claesgens, same address.
706,044. Machine belting. Martin Gillet, Arlington, Massachusetts, assignor to Julia G. Jordan, trustee, Merchantville, New Jersey.
706,293. Pneumatic tread and tire. Frank L. Beamond, Sutton-Coldfield, England.
706,466. Hydraulic or fire hose. Benjamin L. Stowe, Jersey City, New Jersey.

ISSUED AUGUST 12, 1902.

- 706,543. Horseshoe. John W. Fisher, Akron, Ohio, assignor of one-half to Frank Reifsnnyder, Chicago, Illinois.
706,590. Vehicle tire. Fred E. Osgood and Franklin F. Bradley, Chicago, Illinois, assignors of one-third to Richard A. Kent, same address.
706,693. Bottle stopper. Silas Schwerin, Belleville, New Jersey, assignor to Hardman Rubber Co., same address.
706,758. Golf ball. Eleazer Kempshall, Boston, Massachusetts.
706,768. Soft tread horseshoe. Burton P. Marcle, Brooklyn, New York.
706,802. Dress shield. Emma M. Cowles, Milwaukee, Wisconsin.
706,968. Swiveled hose reel. George E. Le Mond, Detroit, Michigan, assignor of two-thirds to Walter Bogart and Chester Given, same address.
706,986. Lawn sprinkler. Paul Moderson, Fruitvale, California.

ISSUED AUGUST 19, 1902.

- 707,169. Spring tire for vehicle wheels. Henry C. Shearman, Providence, Rhode Island.
707,263. Golf ball. Addison T. Saunders, Akron, Ohio, assignor of one-half to Frank A. Seiberling, same address.
707,355. Conveying belt. John J. Ridgway, Rosebank, New York.

- 707,378. Tire for vehicle wheels. Edouard Belledin-Gras and Frederick Schaublin de Mondran, Paris, France.
707,425. Manufacture of playing balls. Eleazer Kempshall, Boston, Massachusetts.

ISSUED AUGUST 26, 1902.

- 707,538. Rim and felly for rubber vehicle tires. John Baker, Meacham, Illinois.
707,550. Self healing material. George H. Chinnock, Brooklyn, New York, assignor by direct and mesue assignments, to J. J. Nichols and H. H. Jandorf, New York, and S. S. Ryckman, Grimsby, Ontario, Canada.
707,582. Vehicle tire. Walter I. Gregory, Springfield, Massachusetts.
707,594. Horseshoe. Carl A. Judsen, Chicago, Illinois.
707,595. Manufacture of playing balls. Eleazer Kempshall, Boston, Massachusetts.
707,632. Bowling alley pin. Elwood C. Phillips, Chicago, Illinois, assignor of three-fourths to Charles R. Barrett, same address.
707,654. Treatment of crude rubber. James Thame, London, England, assignor to South Western Rubber Co., Limited, same address.
707,661. Pneumatic tire. Moritz Weiss, Vienna, Austria-Hungary.
707,939. Armor for vehicle tires. Charles H. Paschke, Buffalo, New York.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

[* Denotes Applications from the United States.]

APPLICATIONS—1902.

- 14,204. Richard Buckworth, 38, Chancery lane, London. Pneumatic tires. June 23.
14,253. John Mason Welsh, 96, Buchanan street, Glasgow. Preventing puncture of pneumatic tires. June 24.
14,291. Jonathan Aldous Mays, 75, Chancery lane, London. Elastic tires. June 24.
14,495. William Henry Morton, 18, St. Andrew's Crescent, Cardiff. Puncture proof tires. June 30.
14,506. E. Raphael Turnbull, Glasgow. Golf ball. June 30.
14,509. Harry Holden Arnold, Northlands, Hollington, Hastings. Pneumatic tires. June 30.
14,793. John Lindsay Scott, 18, Southampton buildings, Chancery lane, London. Pneumatic tires. July 2.
14,823. David Magill, Balmoral, Belfast. Spring supported rubber tire. July 3.
14,918. Robert Murrell, 35, Victoria street, Westminster, London. Pneumatic tires. July 4.
15,092. Samuel James Stephenson, 23, Winchester street, South Shields. Unpuncturable "Coronation" tire. July 7.
*15,156. Eleazer Kempshall, 19, Holborn viaduct, London. Playing balls. July 7.
*15,157. Eleazer Kempshall, 19, Holborn viaduct, London. Playing balls. July 7.
*15,158. Eleazer Kempshall, 19, Holborn viaduct, London. Playing balls. July 7.
*15,159. Eleazer Kempshall, 19, Holborn viaduct, London. Playing balls. July 7.
15,295. Reginald John Boyce, Heigham House, Norwich. "Rex Coronatus" puncture proof tire. July 9.
15,424. Herbert Champion Harrison, 6, Brems buildings, Chancery lane, London. Golf balls. July 10.
15,430. Robert Wallace, 18, Buckingham street, Strand, London. Tires. July 10.
15,444. Morland Micholl Dessau, 111, Hatton garden, London. Pneumatic tires. July 10.
15,614. Kenneth Clegram Goodman, Bristol. Prevention of puncture of pneumatic tires. July 14.
*15,669. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Apparatus for atomizing or spraying liquids. [Rhodes Lockwood, United States.] July 14.
15,723. William Henry Haigh, 32, John William street, Huddersfield. Method of securing ventilation of waterproof garments. July 15.
15,745. Naomi Wood, Manchester. Pneumatic tires. July 15.
15,748. William Stanham, Snettisham, King's Lynn. Stanham unpuncturable cork inner tube for bicycles. July 15.
*15,800. Eleazer Kempshall, 45, Southampton buildings, Chancery

- lane, London. Playing balls. (Date of application in the United States, May 22, 1902.) July 15.
15,850. William Crofts and William Mackereth, 111, Hatton garden, London. Pneumatic tires. July 16.
15,902. August Dittmar, The India Rubber Works Co., Limited, Silvertown, London. Anti-vibration supports. July 17.
15,965. James Hill Hammond, 322, High Holborn, London. Pneumatic tires. July 17.
16,245. Elizabeth Mary Boys, Blackheath, London. Golf balls. July 22.
16,248. James William Riding and William Edward Crowther, Manchester. Pneumatic motor and vehicle tire. July 22.
*16,283. Charles Henry Wheeler and Franklin William Kremer, 45, Southampton buildings, Chancery lane, London. Elastic tires for vehicles. July 22.
*16,290. Charles Henry Wheeler and Frank in William Kremer. Elastic tires for vehicles. July 22.
16,293. William Mills, Atlas Works, Bonner's Field, Sunderland. Golf and like balls. July 22.
16,371. Naomi Wood, Manchester. Pneumatic tires. July 23.
16,406. George Edward Heyl-Dia, 6, Lord street, Liverpool. Processes for waterproofing insulated wires and apparatus therefor. July 30.
16,412. Hazelwood Carmont, 173, Fleet street, London. Resilient tires for vehicles. July 30.
16,506. Henry Neal, 11, Old Dock road, Great Grimsby. Hose winding machine. July 25.
16,625. Robert Gough, 121, Grandison road, Clapham common, London. Rubber suction book. July 16.

PATENTS GRANTED.—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 4,956. Tires. Jennings, W., 52, King street, Montreal, Canada. March 8, 1901.
5,301. Tires. Ruini, G., and Zucchini, L., 42, via S. Stefano, Bologna, Italy. March 13, 1901.
5,361. Tires. Baier, J., and Clark E., 85, Coolfin road, Custom House, Victoria Docks, London. March 13, 1901.
5,389. Tires. Moss, W. H., Edgbaston, Birmingham. March 14, 1901.
*5,416. Tires. Webb, J. G., Springfield, Ohio, United States. March 14, 1901.
5,636. Horseshoes. Jelly, F. J., 87, Hambro road, and Gazzard, J. J., 131, Pathfield road, Streatham, S. W., London. March 18, 1901.
5,650. Pump valves. Imray, J., Birkbeck Bank chambers, Southampton buildings, London. March 18, 1901.
*5,781. Tires. Woodruff, R. S., No. 1404 Chapel street, New Haven, Connecticut, United States. March 19, 1901.
5,813. Tires. Thompson, W. P., 322, High Holborn, London. March 19, 1901.
6,008. Tires. Main, G. P., Loughborough, Leicestershire, and Main, T., Leamington, Warwickshire. March 22, 1901.
6,013. Gloves. Pegler, F., Retford, Nottinghamshire, and Warry, J. J., Liverpool. March 22, 1901.
*6,230. Tires. Swinehart, J. A., and Byrider, W. A., Akron, Ohio, United States. March 25, 1901.
6,348. Making rubber balls, etc. Daubitz, F., Daubitz, M., and Daubitz, O., (trading as Daubitz, F. M.) Rixdorf, near Berlin. March 26, 1901.
6,695. Jointing tape and washers. Ellis, W., Longsight, Manchester, March 30, 1901.
6,799. Tires. Cleemput, C. van, Tamise, Belgium. April 1, 1901.
6,892. Tires. Jennings, W., No. 52 King street, Montreal, Canada. April 2, 1901.
*6,914. Tires. Lee, G. S., Hawthorne, New Jersey, United States. April 2, 1901.
6,919. Spray producers. Lewis, F. H. S., Hamburg, Germany. April 2, 1901.
6,950. India-rubber compositions. Paulitschky, C., and Paulitschky, R., 14, Wienstrasse, and Wüste, F., 3, Canoragasse, Vienna, Austria. April 2, 1901.
6,995. Boots. White, J. T., Hackney, Clapp, S. A. E., Clapton, both in Middlesex. April 3, 1901.
7,099. Tires. Croft, H., Manchester. April 4, 1901.
*7,159. India-rubber, treatment of. Bourn, A. O., Bristol, Rhode Island, United States. April 4, 1901.

NEWS OF THE AMERICAN RUBBER TRADE.

FISK RUBBER CO.

AS mentioned in the last INDIA RUBBER WORLD, this company have planned an extension of their factory at Chicopee Falls, Massachusetts. They are building a 50 foot addition to one end of the main factory building, which will accommodate part of the tire curing presses, and allow more room for the machine shed. The change will make necessary the rearrangement of practically the whole lower floor of the building, including the installation of new machinery. Several minor changes are being made in other parts of the factory, which will tend to give the company better manufacturing facilities.==The company are almost ready to make shipments of a double tube tire to be known as the "Fisk," which embodies some points different from anything now on the market. There is no flange to lift the cover over, there is no lacing, it can be detached without the use of a lever, and it possesses all the salient points of the Fisk single tube tires, as well as improvements on the double tube tires now in use.

THE L. CANDEE & CO. (NEW HAVEN, CONN.)

At a meeting of the board of directors, held on August 28, H. Stuart Hotchkiss, secretary of the corporation, was elected also to the position of vice president. The resignation of Albert C. Coe as treasurer was accepted, and the vacancy filled by the election of George E. Bailey, who has been head bookkeeper and cashier. The late Charles L. Johnson, during his long connection with the company, was its treasurer, and Mr. Coe was secretary and assistant treasurer.

PLYMOUTH RUBBER CO. (STOUGHTON, MASS.).

As was noted in the September issue of THE INDIA RUBBER WORLD, Mr. F. N. Woodward, who has been very successful with many mechanical rubber goods specialties, has connected himself with the Plymouth Rubber Co., (Stoughton, Massachusetts), where he will manufacture a general line of small mechanical goods. His son, who, in addition to being a practical man in the factory, is a well known salesman, is also associated with him and will attend especially to the selling end of the business. The Plymouth Rubber Co., by the way, have added another engine to their power plant, a Rollins of 350 H. P., this being the third engine of that make that they have installed. They have also completed an addition to their factory, 2½ stories and 68×103 feet, which will be used exclusively for mechanical work. The calenders and grinders were furnished by the Farrel Foundry and Machine Co.

A "CLINCHER TIRE" PATENT SUIT.

A SUIT for alleged infringement of patents has been filed in the United States circuit court for the southern district of New York by The G & J Tire Co. (Indianapolis, Indiana), a corporation under the laws of New Jersey, against The Diamond Rubber Co. (Akron, Ohio), a corporation under the laws of West Virginia. The patents referred to are five, granted to Thomas B. Jeffery, of Chicago, Illinois, and one to Charles Macintosh & Co., Limited, of Manchester, England, as assignee of the inventor, William Golding, their numbers and dates being:

No. 454,115. June 16, 1891, to Jeffery.
No. 466,565. January 5, 1892, to Jeffery.
No. 466,789. January 12, 1892, to Jeffery.
No. 493,160. July 17, 1894, to Jeffery.
No. 523,314. April 28, 1896, to Jeffery.
No. 558,956. March 7, 1893, to Macintosh & Co.

The result of the conjoint use and operation of these patents, according to the complainants in this action, has been what is now known as the "G & J" detachable tire—a tire attached and detached by mechanical means, being provided with beaded edges, which engage with a specially shaped rim, and are held in position by the internal air pressure, without any necessity for cement or other fastening appliances. These patents, having been acquired by the Gormully & Jeffery Manufacturing Co., of Chicago, were transferred to the Rubber Goods Manufacturing Co., and, finally, to The G & J Tire Co., the manufacture and sale of the tires having been maintained during the whole time. It is alleged that The Diamond Rubber Co. have begun the manufacture of a similar tire, infringing the rights of the complainants, in spite of warnings from the complainants, who now pray for an injunction restraining The Diamond Rubber Co. from further making such tires, and an accounting for all profits realized by said company from making the tires. The papers in the case, dated August 28, 1902, are returnable on the first Monday in October. Ernest Hopkinson, of New York, is counsel for the complainants, and C. K. Olfield, of Chicago, for the defense. Meanwhile The Diamond Rubber Co. promise full protection for their customers.

AMERICAN CHICLE CO.

THE following is a record of sales reported of shares of the American Chicle Co., in New York, for two months past, with the quotations per share:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 2	35	106½	106	....	....	....
Week ending Aug. 8	50	107½	107½	10	91	91
Week ending Aug. 16	75	110	110	....	..	....
Week ending Aug. 23	....	....	....	50	93	93
Week ending Aug. 29	25	115	115	200	95	94
Week ending Sep. 6	175	120	117½	30	96	95¼
Week ending Sep. 13	40	123	121	5	96	96
Week ending Sep. 20	....	....	...	126	97½	95

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 23	400	16½	16	....	....	....
Week ending Aug. 30	300	16½	16¼	110	55¾	54¾
Week ending Sept. 6	700	16¾	16¼	110	56	56
Week ending Sept. 13	3930	17¾	16½	1613	58¾	55¾
Week ending Sept. 20	6500	19	17	2650	59¾	57

RUBBER GOODS MANUFACTURING CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 23	1,600	20¼	19	600	70	69
Week ending Aug. 30	2,900	21¾	19	1000	71	70
Week ending Sept. 6	2,700	22	20½	300	71	70
Week ending Sept. 13	3,700	22½	20¾	500	70¾	70
Week ending Sept. 20	14,430	23½	20¾	2780	72	68¾

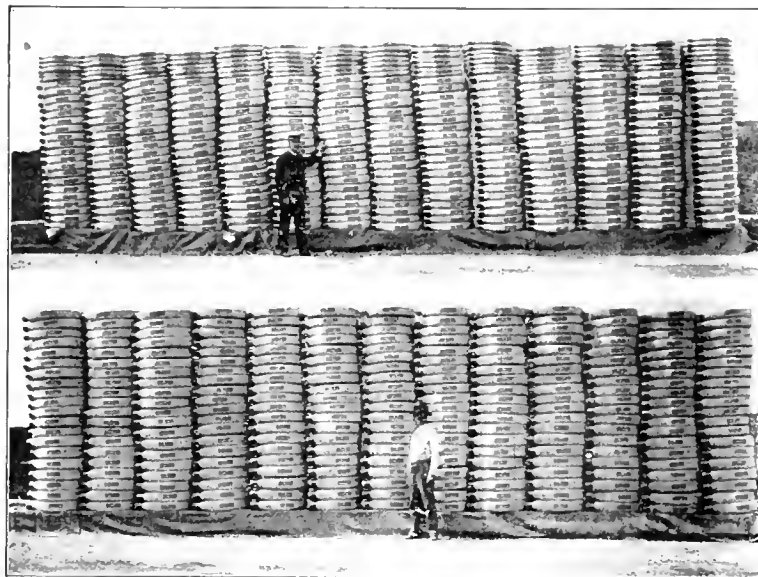
GOLF AT AKRON.

AT the Portage Golf Club, among the aspirants for the club championship this fall, are Mr. B. G. Work, Mr. C. C. Goodrich, Mr. Kelley, Mr. Johnston and Mr. Leavitt, of The B. F. Goodrich Co.; Mr. Charles Raymond, of The American Hard Rubber Co.; Mr. Frank A. Seiberling, of The Goodyear Tire

and Rubber Co.; Mr. A. H. Noah, of The Diamond Rubber Co.; and Mr. R. L. Chipman, local agent of the New York Commercial Co. Mr. R. P. Marvin, of the Goodrich company, has offered a handsome cup to the winner, which is a work of art and is arousing unusual interest and enthusiasm among golfers.

LARGE SHIPMENT OF FIRE HOSE.

An illustration on this page gives a view of a stock of fire hose lately delivered by the Eureka Fire Hose Co. to the fire department of New York city. This is believed to have been the largest order for fire hose ever placed and filled. It embraced 31,500 feet of "Eureka" and "Paragon" brands, and seven heavily loaded trucks were required to transport the



hose from the factory to its destination. The order comprised 2000 feet $1\frac{1}{2}$ " "Paragon" brand, 8000 feet $2\frac{1}{2}$ ", 8000 feet 3", and 2000 feet $3\frac{1}{2}$ " "Eureka" brand for the boroughs of Manhattan and Bronx; also 2500 feet $1\frac{1}{2}$ " "Paragon" and 6000 feet $2\frac{1}{2}$ ", and 3000 feet $3\frac{1}{2}$ " "Eureka" brand, for the boroughs of Brooklyn and Queens. By looking at the picture closely, the different sizes of hose comprising the order may be distinguished, the smallest ($1\frac{1}{2}$ " "Paragon"), being shown at the top in the upper view. Those who know Mr. B. L. Stowe, vice president of the Eureka Fire Hose Co., will recognize him in the upper view and thus gauge the height of the pile shown. Attention may be called here to the phenomenal record of fire hose sales made by the Eureka company from 1875 to 1902. During this period, the company have sold 1,785,938 feet of "Eureka" and "Paragon" fire hose to the fire departments of thirty of the largest cities in the United States. Altogether the Eureka Fire Hose Co. have supplied the city of Greater New York with a total of 307,900 feet of their popular brands of hose.

NEW INCORPORATIONS.

THE Combination Tire Co., September 20, under New York laws; capital, \$100,000. Directors: Thomas Clark, New York; William R. Harris and William B. Tuttle, Akron, Ohio.

=Gregory Rubber Co., August 22, under New Jersey laws; capital, \$125,000. Directors: Frank L. Dunlap, Fred L. Mixer, Edward P. Fay, and Walter I. Gregory, Springfield, Massachusetts; and Willard R. Gregory, Brooklyn, New York. Frank L. Dunlap, president; Fred L. Mixer, vice president; Edward P. Fay, secretary; Walter I. Gregory, treasurer and manager.

The company control a patent on a solid rubber tire, of which the base is the widest portion, granted August 26, 1902, to Walter I. Gregory.

=The Empire Rubber Manufacturing Co. (Chicago), June 24, under Illinois laws, to cover the business in Illinois of the New Jersey manufacturing company of the same name; capital, \$2,500. Incorporators: Russel D. Smith, Robert J. White Thomas S. Kiernan.

TRADE NEWS NOTES.

THE Republic Rubber Co. (Youngstown, Ohio) lately received a large order from Chicago for grain elevator belting, in competition with other makers, based on the quality of their goods.

=The directors of The Rubber Goods Manufacturing Co., on September 3, declared the fourteenth regular quarterly dividend of $1\frac{1}{4}$ per cent. on the preferred shares, payable on September 10. The last dividend on the common stock was paid July 15, 1901.

=The Elastic Tip Co. (Boston) have purchased the patents of Scott's combination cushion chair tips, and also the Foster patents for the friction plug, as applied to boot heels and shoe soles.

=The lately formed International Rubber Manufacturing Co., (New York)—Ed. Loewenthal, general manager—have taken possession of the plant at No. 144 Provost street, Jersey City, New Jersey, operated until recently by the U. S. Rubber Reclaiming Works.

=The India Rubber and Gutta Percha Insulating Co. (Yonkers, New York), are installing alternating current motors to replace a number of small isolated steam engines formerly used for driving the carpenter shops and the winding and braiding departments.

=The Bonner substitutes are beginning to be very well and favorably known by rubber manufacturers, both here and abroad. It will interest the trade to know that Mr. Bonner has erected a new plant in Atlantic, Massachusetts, and incorporated a company known as the Bonner Manufacturing Co., where a variety of high grade substitutes are manufactured.

=The Boston Woven Hose and Rubber Co., in order to increase the facilities of their Philadelphia business and to give prompt attention to orders and inquiries in that section, have opened an office and sample room at No. 744 Drexel building, Philadelphia, the office to be in charge of their Mr. R. F. Hayes.

=The salvage of Stewart Brothers & Co., the burning of whose store at Pittsburgh, Pa., was mentioned in the last INDIA RUBBER WORLD, was offered at auction in Chicago, on September, 24-25, by the Western Salvage Wrecking Agency. The stock invoiced \$300,000, of which 95 per cent. was stated to be in practically perfect condition, and included 8500 cases of "Hood" and "Old Colony" rubbers.

=The Lambertville Rubber Co. (Lambertville, New Jersey), by enlarging the dam at their factory, have increased their water supply. They have also put an extension upon the smoke stacks of the factory to increase the draft, which has been made necessary by the use of soft coal.

=Two judgments aggregating \$5900 were filed in a New York court, September 5, against The American Pegamoid Co. This company was incorporated on December 17, 1897, with \$5,000,000 capital, to manufacture artificial leather, paints, and waterproofing materials, and expended \$25,000 in decorating its offices at No. 11 Broadway. It has steadily diminished the rate of its expenditures since that date, and now appears to have suspended payments.

=H. N. Wayne, a well known New England rubber man, is at the head of a prosperous plant located at Oakland, California, known as the West Coast Rubber Co., manufacturing dipped goods and small mold work. Rubber heels have been made by him from cultivated Mexican rubber, supplied by La Zacudpa Plantation Co.

=The J. B. Kleinert Rubber Co., who have been extending their factory at College Point, Long Island, have obtained a permit for the erection of two $4\frac{1}{2}$ story brick factory buildings, to cost \$50,000. The company have purchased land on which to erect three brick tenement buildings, three stories high, for the accommodation of their employes and their families.

=The Chicago *Inter Ocean* says that William J. Rafferty, treasurer of the International Rubber Workers' Union, did not take part in the Labor Day parade on September 1, because he was under arrest on a charge of embezzling \$400 from the organization—part of the proceeds of a picnic held by the Union a few weeks before.

=The name Rubber Tire Wheel Co. has been discarded at the Boston headquarters for the Kelly-Springfield tires. The business will be conducted by C. S. Mersick & Co., No. 33 Haverhill street, with branches at Providence, R. I., and New Haven, Conn.

=The Hazelton Boiler Co. (Rutherford, New Jersey) have received an order from the Brooklyn Union Gas Co. for five new boilers of 1000 H.P. An additional Hazelton special boiler 235 H.P. has been ordered by the North Adams (Mass.) Gas Light Co.

=A contract for supplying 10,000 pairs of arctic overshoes for the army, under bids opened at the Philadelphia depot of the Quartermaster's department on August 26, was awarded to John Wanamaker, at \$1.87 $\frac{1}{10}$ per pair.

=Mr. W. S. Huffman having resigned as Eastern sales manager for the Victor Rubber Tire Co. (Springfield, Ohio), Mr. A. J. Moyer, Jr., as acting manager, is in charge of the company's Boston branch, visiting the local trade, and Mr. Herbert C. Comstock, who is connected with the New York branch, calling on the other New England trade. Mr. Huffman has secured patents on improvements in solid rubber vehicle tires, and, it is reported, is engaged in the organization of a new manufacturing company.

=The Singer Manufacturing Co., who have been so successful in designing sewing machines for stitching rubber goods, have removed their principal salesrooms in New York from Nos. 561-563 Broadway to the corner of Broadway and Prince street.

=R. J. Owens, for over twelve years associated with the sales department of the Boston Woven Hose and Rubber Co. (Cambridgeport, Massachusetts), will take the position of Boston representative for that company, on or about October 1, with headquarters at No. 170 Summer street, Boston.

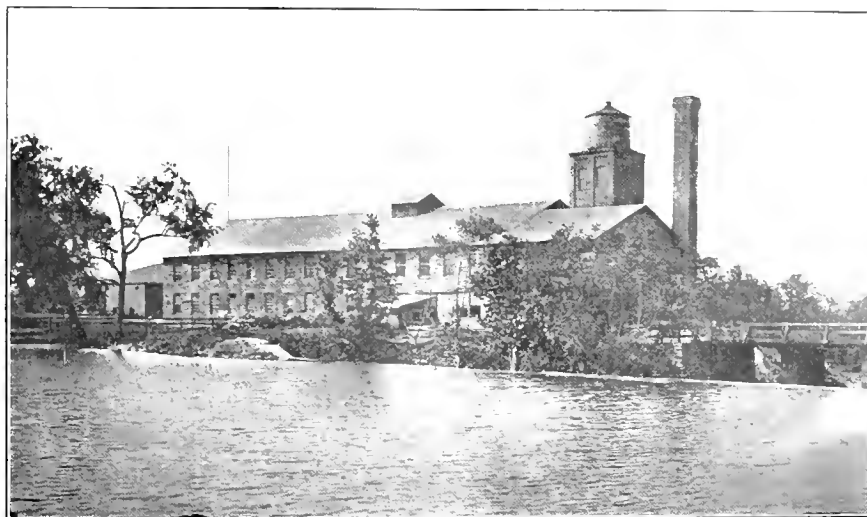
=Hamilton F. Morse, for some time past connected with the Globe Rubber Works of Boston, has accepted a position with the Empire Rubber Manufacturing Co., and will travel in New England.

=The three steam steel devulcanizers, each 60 inches in diameter by 40 feet in length, and the two supply boilers for them, embraced in the plant of The U. S. Rubber Reclaiming Works at Buffalo, described in the last INDIA RUBBER WORLD, were furnished by Thomas F. Stevenson, No. 120 Liberty street, New York, from the company's special designs. The weight of each devulcanizer is 36,000 pounds. They are now carrying 125 pounds working steam pressure, for which they were thoroughly tested by The Hartford Steam Boiler and Insurance Co. They are of perfect workmanship in all their details.

=The Rubber Trading Co. (New York) have secured the general agency for the products of the Manufactured Rubber Co., of Philadelphia.

=The B. F. Goodrich Co. (Akron, Ohio) have begun to put out a line of tennis balls under their own name and are meeting with gratifying success. For years they have made the centers for other dealers, but are now marketing the ball entire as used by experts at Newport and elsewhere.

=The Summit Rubber Co. (Akron, Ohio) had finished their factory, the machinery was set up, and samples were being made, when an annoying breakdown occurred early in September, necessitating a wait of a few weeks. They will make the usual line of rubber specialties for which Akron is famous, and the samples that they show are fine specimens of this class of goods.



THE WHITEHEAD RUBBER WORKS.

They now have several salesmen on the road.

IMPROVEMENTS AT THE WHITEHEAD RUBBER WORKS.

THE Whitehead Brothers Rubber Co. (Trenton, New Jersey) have just completed notable improvements in their plant, and to day have an up-to-date factory equipment throughout. These improvements include the continuation of the main building some 50 feet, and the erection of a 65 foot brick tower, on top of which is a water tank of 12,000 gallons capacity, while inside of the tower is another 3000 gallon tank. In the basement of the tower is a large Worthington pump, and this, together with the other fire pumps, their sprinkler system, and an inexhaustible water supply, makes their fire protection complete. They are also adding to their machine equipment additional grinders, and have increased the capacity of their hose room about 50 per cent. It is interesting to note that they have installed a new type of hose machine, one which instead of having 50 foot continuous rigid rolls, is supplied with three series of rolls, each series made up of many short rolls set on powerful springs, the whole being a little more than 50 feet in length. This machine was perfected by an inventor who was backed by the late Samuel K. Wilson. The Whitehead Rubber

Works have the unusual record of running the last four years without a day's shutdown for repairs, or because of lack of orders. In fact, during part of the time they were obliged to work nights.

C. EDWARD MURRAY.

SOMEWHERE back in 1883 General William H. Skirm, of Trenton, New Jersey, furnished capital for a young man to start in the rubber reclaiming business. In this he made no mistake, for almost from the start the business was successful



and the advances that he made were all repaid with interest. Quite recently the young man who is the subject of this sketch had it in his power to secure capital and protect General Skirm's stockholdings in another rubber factory, this in a measure repaying the help given by the general at an earlier date. C. Edward Murray is

perhaps as well known as any man in New Jersey to day, both in manufacturing and political circles. In the latter he is, and has been since 1894, clerk of the City. He was also for some time on the staff of General Skirm, being paymaster of the Seventh Regiment of the National Guard of New Jersey. He is the founder and a large stockholder in the Crescent Belting and Packing Co., a prosperous concern in Trenton, manufacturing mechanical rubber goods, and also of the Crescent Insulated Wire and Rubber Co., which does a large business in wire covering. He has also recently become treasurer of the Empire Rubber Manufacturing Co., in which General Skirm is a prominent figure.

THE TRADE IN RUBBER FOOTWEAR.

A PUBLISHED statement credited to an official of the United States Rubber Co. is to the effect that their shipments of rubber footwear so far this year have been in excess of the corresponding period of 1901, although last year a special discount of 5 per cent. had been offered to induce early orders. This means that this year's business has been secured at full prices without any extra inducements and this fact, in connection with the lower prices of crude rubber than prevailed last year, is mentioned as an indication that a better showing of profits will appear in the next annual balance sheet.

WHAT RUBBER COMPANY IS THIS?

LONDON, September 21.—An American company will open a factory at Glasgow to-morrow with 200 employes, to supply British golfers with American golf balls. In a month the company expects to be turning out 12,000 balls daily.

GLASGOW, September 23.—Operations have been commenced on the factory of The Diamond Rubber Co., to be built here. American machinery is to be installed. Among those interested in the project in England is W. Alexander Smith, vice president of the Diamond Match Co.

AKRON, OHIO, September 24.—Both Mr. Miller and Mr. Noah, of The Diamond Rubber Co., inform THE INDIA RUB-

BER WORLD'S correspondent that they know nothing about a new rubber factory in Scotland, and that their company have none such in contemplation. They are at a loss to know how such a report could have arisen.

PERSONAL MENTION.

COLONEL SAMUEL P. COLT, president of the United States Rubber Co., has returned from his vacation trip to Europe, and is again to be found at the New York offices of the company. While abroad he began some important negotiations looking to direct importations of crude rubber by his company, further details of which appear on another page.

=Mr. Frank Cazenove Jones, president of The Manhattan Rubber Manufacturing Co. (New York), has entirely recovered his health and is back again at the head of his prosperous concern.

=Mr. John P. Lyons, advertising manager of the United States Rubber Co., is one of the busiest men in New York to-day, planning a most aggressive advertising campaign for the coming year.

=Mr. W. F. Bowers, president of the Bowers Rubber Co., San Francisco, California, is on a visit to the Atlantic coast.

=Mr. Arthur F. Townsend, vice president of the Manhattan Rubber Manufacturing Co. (New York), has just returned from a brief trip to St. Louis.

=Mr. J. Edwin Davis, acting manager of the Republic Rubber Co. (Youngstown, Ohio), was a recent visitor to New York and Boston.

=Mr. Reuben Allerton, a cousin of George M. Allerton, treasurer of the Seamless Rubber Co. (New Haven), has just returned from some years' residence abroad, with some exceedingly interesting specialties and inventions in the line of rubber.

=Mr. F. C. Hood, treasurer of the Hood Rubber Co. (Boston), has just returned from a three months' pleasure trip abroad.

=Mr. Arthur W. Stedman, of the firm of George A. Alden & Co. (Boston), has just returned from Vermont, where he was the guest of the well-known author, Winston Churchill, at his beautiful home at Windsor. While there he was invited to join a hunting party on the magnificent 55 000 acre game preserve of the late Austin Corbin, and incidentally was one of those who welcomed President Roosevelt as he passed through the Green Mountain state.

=Mrs. Emma Tyree Banigan, widow of the late William B. Banigan, of the rubber trade, was married to Mr. Timothy L. O'Connor, of Providence, Rhode Island, on September 9.

=A number of first and second prizes, at the fall exhibition of the Massachusetts Horticultural Society, at Boston, were awarded for flowers and plants from the conservatories of the Hon. E. S. Converse, president of the Boston Rubber Shoe Co.

* * *

A CORPORATION has been formed under the style J. H. Stedman & Co., Inc., with a Massachusetts charter, to continue the business of J. H. Stedman & Co., buyers and sellers of domestic and foreign rubber scrap, at No. 200 Summer street, Boston. James H. Stedman is president, George H. Stedman secretary, and Selden W. Tyler, a business man of Lynn, Mass., treasurer. Date of organization, September 17.

=The address of the New England selling agency of The Eureka Rubber Manufacturing Co. (Trenton) was erroneously given in the last INDIA RUBBER WORLD. The selling agent, W. M. Farwell, retains the location which he has occupied for ten years in the rubber business—No. 276 Devonshire street, Boston. A. P. Spear, formerly with the Boston Woven Hose and Rubber Co., has become connected with this agency.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The efforts of the labor leaders toward the organization of the rubber workers of Akron into a union, spoken of in this column of THE INDIA RUBBER WORLD last month, have been attracting considerable attention locally in the meanwhile. A number of men carried banners in the Labor Day parade, urging the rubber workers to organize, and an embryo union marched with the other organized bodies. Since then the claim has been made by certain of these men that a number of rubber shop employes have been discharged for no reason but their affiliation with the union movement. It was claimed that both The Diamond Rubber Co. and The B. F. Goodrich Co. had thus dismissed employes. The result was a meeting of the Rubber Workers' Union on the night of September 12, when fiery speeches were made by several local union leaders. James Mahony, president of the Central Labor Union, however, counselled the men to be more calm, to be respectful and self-respecting always, and wait until a committee named for the purpose had investigated the claims made. His plea for moderation had the approval of all the better element present, and the more inflammatory talks of others were not heeded by the majority. A number of new members were afterward added.

The claim of the union men is that the rubber workers are not receiving wages commensurate with their work and hours, and it is their plan to gain in strength and numbers sufficiently to compel concessions. The manufacturers are not blind to the movement, but it has occasioned them little uneasiness as yet. Those who are most active in the union movement are not of that class, either as men or as mechanics, who will naturally draw others to them. The union now claims 1000 members, and it is admitted that they may have 400 or 500. There are 3000 workers in the Akron rubber factories who might be put in the class of those the promoters of the union hope to win. The promoters are also undertaking to unite with their movement the girls and women employed in the factories, of whom there are 1500.

President Mulholland, of the National Rubber Workers' Union, visited Akron during the latter part of September, and claimed to be pleased with the progress of the local union. Rumors of future trouble have been circulated, but there has been no difficulty as yet. It is claimed by union men that a book in which the names of their members were recorded has disappeared. The rubber manufacturers deny that they have discharged any one for having become affiliated with the union, but state that at least some of the men who have lost their places lately have declared their willingness to renounce the union if they can secure their positions again.

The secretary of a leading rubber company said to THE INDIA RUBBER WORLD'S correspondent that the work in the average rubber factory is so diversified and the ability of employes so varied, that it is practically impossible to fix any certain price as a standard of wages in any given department. "We take on hundreds of men," said he, "and to some of them pay abnormally high wages; but they are such as can do the work well. Others we are obliged either to let go or allow them to graduate into the positions which they are capable of filling. This is why a union is impracticable among rubber workers."

"It is almost wholly the fellows who in other factories would be classed only as laborers who are taking any interest in this thing," said a rubber worker who has been in the business for several years, to THE INDIA RUBBER WORLD correspondent.

"While the union movement may gain enough ground to make itself felt, I do not believe it will, and the material of which it must be composed is not such that it will be more than annoying. While the present effort toward organizing the rubber workers is the strongest that has been made, I do not think it will attain such proportions as would make a strike a serious matter for any length of time."

At the annual meeting of The Whitman & Barnes Manufacturing Co., on September 3, C. I. Bruner and George C. Kohler, of Akron, were chosen as directors to succeed J. O. Whitaker, of Cincinnati, and George A. Barnes, of Akron. The former was, until recently, sales manager of the company, and resigned. C. E. Sheldon, of Akron, vice president and general manager, was chosen as president, to succeed George E. Dana, of Syracuse, New York, who was made chairman of the board, an honorary position filled by retiring presidents. W. W. Cox, of St. Catharine's, Ontario, was elected vice president; F. H. Hiskok, of Syracuse, second vice president; William Stoye, of Chicago, treasurer; Charles E. Caskey, of Akron, assistant treasurer; H. B. Utley, of Chicago, general manager; the Hon. Frank Hiskok, general counsel; James Barnes, of Syracuse, secretary. Mr. Utley, the new general manager, was until lately general manager of the McCormick Harvesting Machine Co. It is the Akron factory of the company which is devoted to rubber goods, and President Sheldon states that the past year has been prosperous and that extensions of the company's several lines will be made in the coming year. The company contemplate removing their general offices to Chicago.

The Akron branch of The American Hard Rubber Co. is to be enlarged by the addition of a two story brick building, 137x40 feet, to the present premises, which, it is hoped, will be in readiness by New Year. Manager C. B. Raymond states that the object of the new building is to provide room for a general extension of the company's business here. When the local plant (formerly The Goodrich Hard Rubber Co.) was merged into the American Hard Rubber Co., there was at first a curtailment of its business, but it is said that more work is being done now at this factory than ever before.

The advent into the rubber business of Will Christy, recently elected president of The Firestone Tire and Rubber Co. to succeed his brother, James Christy, who has removed from Akron, is of more than passing interest. Mr. Christy is expected to give to the rubber business the same impetus that has characterized the other large business enterprises with which he has been identified hitherto.

Vice President J. A. Swinehart, of the Firestone Tire and Rubber Co., who spent the summer in Europe, reports bright trade prospects there.

Dr. L. E. Sisler, secretary and treasurer of the Firestone Tire and Rubber Co., will soon remove to Port Huron, Michigan, to devote his attention more exclusively to his work as supreme finance keeper of the Knights of the Maccabees.

W. O. Rutherford has been transferred from the Denver branch to the Buffalo branch of The B. F. Goodrich Co. Mr. Tullis, hitherto in charge in Buffalo, will represent the company on the road, and the Denver branch has been placed in charge of Mr. Collins, from the New York office.

Christopher Metzler, for twenty-seven years an employe of The B. F. Goodrich Co., had never taken a vacation or lost a day from work until this summer, when he asked for and was granted a month's leave of absence. Upon his return he was informed by the company that he need not again report for duty, but that during his life his salary would go on, a check being sent him every quarter. No formal announcement to

that effect has been made, but it is understood to be the policy of the Goodrich company to similarly treat all faithful employes in old age. Mr. Metzler is in his sixtieth year.

C. C. Goodrich, of The B. F. Goodrich Co., offered a handsome cup as a trophy in a putting contest at the Portage Golf Club on Labor Day. George A. Barnes, of The Whitman & Barnes Manufacturing Co., and F. E. Andrews tied for the cup.

The Goodrich Fish and Game Club enjoyed a clambake at Long Lake on September 20. "As we journey through life let us live by the way," is the club's motto.

The Haskell golf ball has sold splendidly all season. The Saunders' pneumatic ball will not be marketed until next year. The "King William," the new ball The Diamond Rubber Co. are putting on the market, has not been pushed much as yet.

The Diamond Rubber Co. lately sent to the secretary of state of Ohio a check for \$1200, being the largest tax yet reported in this state under the new Willis law, which requires corporations to pay a tax upon their capitalization.

Francis H. Holton, manager of The Rubber Specialty Co. since their organization, has tendered his resignation, and is no longer connected with the company. Mr. Holton was for several years identified prominently with The B. F. Goodrich Co.

The India Rubber Co. contemplate the erection of a new building for office purposes, owing to the fact that their present quarters, which are rented, have been sold recently.

The India Rubber Co. report that the rubber sponge they are putting upon the market, while it has not been pushed aggressively, has met with decided favor.

President Charles H. Wheeler, of The India Rubber Co., has been on a vacation of a few weeks in South Dakota.

The large addition being erected by the Goodyear Tire and Rubber Co. is about half completed and will be ready for occupancy in 60 days. There will be many changes in the arrangement of the company's factory when this addition is ready.

Since not many rubber men take an active part in politics, it may be worth mentioning that General Charles Dick, the "right-hand man" of United States Senator Hanna in Ohio politics, and who is a candidate for reelection to Congress from the Akron district for the fourth term, is vice president of The Goodyear Tire and Rubber Co.

The Camp Rubber Co. will soon be ready for business in their new factory at Ashland, Ohio. They will manufacture pneumatic horse collars on a large scale for Eastern parties, and meanwhile The Faultless Rubber Co. are making many of these for the Camp company.

THE RUBBER TRADE AT TRENTON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The plant of the Modern Rubber Manufacturing Co., just outside of the city limits, was destroyed by fire on the evening of September 24. The premises comprised a main building 100 x 40 feet, engine and boiler rooms, press room, reclaiming department, and office, all of frame construction. The flames were discovered in the roof of the main building, near the engine room, about 10 o'clock, when several employes were at work, the company having been so busy of late that it was necessary to operate the plant at night. The firm had a fire pump, but so rapid was the spread of the flames that the men who tried to work it had to flee for their lives. The factory was beyond the reach of the city fire department. The loss on buildings and machinery, roughly estimated at \$10,000, is partially covered by insurance. About \$3000 worth of manufactured goods was burned and several tons of rubber

scrap and a quantity of chemicals. The Modern company was incorporated December 1, 1898, and manufactured rubber corks, mats, and other specialties, Allan Magowan being the superintendent and a large owner of the stock.

The buildings of the Eureka Rubber Manufacturing Co. are being hurried to completion and are now above the second story. The engineers in charge of the work promise that they will be ready to operate by January 1. The buildings are a main structure 307 x 55 feet, and three stories high; a storehouse 104 x 40 feet, one story high; and a one-story curing room, 84 x 42 feet. The power plant will occupy a one story building 100 x 60 feet. The structures are all substantially built of brick. The engines will be of 500 H.P. of the Watts-Campbell build. The plant will be in every respect modern and up to date.

The new office building recently occupied by the United and Globe Rubber Manufacturing Cos. is a handsome brick three story structure, 40 x 50 feet. The interior is elegantly finished in hardwoods with tiled fireplaces. The first floor contains the entrance hall, reception room, president's office, general offices, and private telephone exchange, the latter communicating with all parts of the works. The second floor contains the offices of the general manager and the treasurer, and the accounting department. Old records are stored on the third floor. The company have doubled their floor space during the past year and have just put in two additional looms for the manufacture of cotton hose.

The Home Rubber Co. are building a new two-story brick structure with stone trimmings, 212 x 33 feet. It will be used for a storehouse and a general work room. The company expect to occupy it in about three months.

The hard rubber department established about a year ago by the Joseph Stokes Rubber Co. has now reached a solid commercial basis, and together with the other department of the factory is busy, with orders booked ahead.

The Whitehead Brothers' Rubber Co. are installing a new hose machine and a new 35 H. P. engine and boiler to operate it. An extension of the engine room will be necessary. The company are also adding another mixing machine.

The Union Rubber Co., recently incorporated to deal in rubber goods, have organized by electing W. H. Harding president and general manager; Richard C. Chamberlain, secretary, and Nelson L. Pettie, treasurer.

In common with a general policy to interest the factory employes of the city in its work in general, and its evening school in particular, the local Young Men's Christian Association has been advertising itself among the rubber mills. In each mill a noon day meeting was held by the association, at which phonograph selections were given, the evening school presented, and the association prospectus distributed. Committees to aid in pushing the educational scheme were appointed in each mill from among the employes. The committees follow: *Home*—Charles Troup, S. Percy Gifford, Herbert Smith. *United and Globe*—Charles H. Grady, Malcolm Salter. *Grieb*—Mr. Oakley, A. Combe. *Hamilton*—Uriah Pittman, J. J. Swan, Jesse Sooy. *Crescent*—H. C. Everingham, Charles D. Wilking, Thomas Keating. *Joseph Stokes*—Dunbar Phillips, G. W. Wilgus. *Trenton*—Edgar H. Goodwin, George H. G. Chamberlain, E. O. Titus. *Whitehead*—Lyman L. Titus, T. W. Cumberly, John Brink. A goodly number of rubber workers have joined the evening classes.

The annual outing of the employes of the Empire and Crescent rubber mills took place on August 30. The men gathered in a grove near the city, and indulged in sports. The girls had a picnic in Cadwalader Park. Over 400 attended in all.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market has been a changing one all through the month, varying from firmness to dullness under the influence of reports from Pará and Europe, and at the close, prices of Pará sorts, particularly, are lower than at the date of our last issue. The Pará crop thus far is about the same as last season. During the latter part of September the English market for Pará was quiet, prices showing a decline from the quotations at the middle of the month reported on the next page. Doubtless the higher level of prices abroad resulted in part from extensive buying for American account, and the advance there was reflected on this side of the Atlantic. We report this month an unusually large amount of Pará received at New York *via* Europe. Centrals have been taken well at full figures, and there has been more inquiry for Africans. Manufacturers have been fairly liberal buyers of all sorts, but without any disposition to anticipate their wants.

New York quotations on September 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....70	@71	Tongues.....42	@43
Islands, fine, old.....72	@73	Sierra Leone, 1st quality64	@65
Upriver, fine, new.....74	@75	Benguella.....48	@49
Upriver, fine, old.....77	@78	Cameroon ball.....43	@44
Islands, coarse, new.....45	@46	Flake and lumps.....31	@32
Islands, coarse, old...@		Accra flake.....17	@18
Upriver, coarse, new...59	@60	Accra buttons.....46	@47
Upriver, coarse, old...@		Accra strips.....49	@50
Caucho(Peruvian)sheet 51	@52	Lagos buttons.....	
Caucho (Peruvian) ball 55	@56	Lagos strips.....	
CENTRALS.		Madagascar, pinky....	
Esmeralda, sansage.....53	@54	Madagascar, black	
Guayaquil, strip.....49	@50	EAST INDIAN.	
Nicaragna, scrap...52	@53	Assam.....53	@54
Mangabeira, sheet.....43	@44	Borneo.....33	@44

Late Pará cables (September 29) quote:

	Per Kilo.		Per Kilo.
Islands, fine.	4\$450	Upriver, fine.	5\$200
Islands, coarse	2\$350	Upriver, coarse.	3\$700

Exchange, $11\frac{1}{2}\frac{5}{6}d.$

Last Manáos advices (September 29):

Upriver, fine..... 4\$950 Upriver, coarse. 3\$250

Exchange, 11 $\frac{7}{8}$ d.

NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER).

	1902.	1901.	1900.
Upriver, fine.....	70 @.76	85 @.92	93 @.99
Upriver, coarse.....	56 @.61	61 @.68	68 @.71
Islands, fine....	67 @.73	81 @.88	88 @.97
Islands, coarse.....	45 @.48	46 @.50	55 @.58
Cametá, coarse.....	46 @.48½	50 @.51	55 @.59

In regard to the financial situation Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us as follows: "During September money rates have advanced so much, running as high as 25 per cent. on call and 6 @ 7 per cent. on time loans with collateral, that there has been very little demand for paper, and entirely from out-of-town banks; rates being in exceptional cases $5\frac{1}{2}$ @ 6 per cent., but towards the end of the month $6\frac{1}{2}$ @ 7 per cent."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic.....	7 $\frac{3}{4}$ @	7 $\frac{7}{8}$
Ditto —Foreign.....	6 $\frac{5}{8}$ @	6 $\frac{3}{4}$
Pneumatic Bicycle Tires.....		6
Solid Rubber Wagon and Carriage Tires.....		7
White Trimmed Rubber.....	9 $\frac{1}{2}$ @	9 $\frac{3}{4}$
Heavy Black Rubber.....		4 $\frac{1}{4}$
Air Brake Hose.....	2 $\frac{3}{4}$ @	2 $\frac{7}{8}$
Fire and Large Hose.....		2 $\frac{1}{2}$
Garden Hose.....		1 $\frac{1}{2}$
Matting.....		1

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.					
	Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.	
Stocks, July 31..... <i>tons</i>	350	12 =	362	724	498	
Arrivals, August.....	434	243 =	677	464	599	
Aggregating.....	784	255 =	1039	1188	1097	
Deliveries, August.....	570	248 =	818	665	531	
Stocks, August 31....	214	7 =	221	523	566	
	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, July 31... <i>tons</i>	40	215	370	1025	930	1500
Arrivals, August.....	1380	1190	1200	1200	750	425
Aggregating.....	1420	1405	1570	2225	1680	1925
Deliveries August....	1323	1215	1315	700	700	725
Stocks, Aug. 31..	97	190	255	1525	980	1200

	1902.	1901.	1900.
World's supply, August 31..... <i>tons</i>	2746	2238	2629
Pará receipts, July 1 to August 31.....	2367	2305	1960
Pará receipts of Caucho, same dates.....	323	250	190
Afloat from Pará to United States, Aug. 31..	418	87	170
Afloat from Pará to Europe, August 31.....	468	458	345

Bordeaux :

ARRIVALS AUGUST 1 TO SEPTEMBER 15.

Sondan sorts.....	kilos	84,000	
Cassamance.....		14,100	
Bassam.....		3,000	
Mayumba.....		1,200	
Conakry.....		1,000	
Lahou.....		2,500	
Madagascar.....		1,000	106,800

PRICES—RECENT SALES—FRANCS PER KILOGRAM.

Sondan Twists, good...	6.90@7.05	Cassamance. A. P.	6.70@6.80
Do ordinary ...	6.10@6.60	Do A.	5.50@5.60
Sondan Niggers, good...	6.75@6.90	Do A. M.	4.30@4.60
Do ordinary ...	5.50@6.	Grand Bassam, niggers...	5.50@5.75
Conakry niggers, red...	7. @7.40	Madagascar, Tamatave...	5. @5.80

Antwerp.

OF chief interest in this market during the month was the inscription sale on the 23d, when 679 tons were offered, this being a record for Antwerp. Of this large quantity, only 15 tons were withdrawn, and the sale went off at an average of 6 per cent. over the valuations, showing the market to be very strong. Among the principal lots offered were the following, with their valuations:

	Valuation.
54 tons Lopori I.	francs 7.15
43 " " Lopori I.	7.25
48 " " Mongalla strips.	5.75
30 " " Upper Congo small strips.	5.50
59 " " Uelè strips.	5.50
53 " " Upper Congo balls.	6.85
23 " " Lower Congo red thimbles.	3.
12 " " Aruwimi.	5.10
22 " " Aruwimi.	5.75
31 " " Upper Congo small strips.	5.50
10 " " Equateur.	6.30
11 " " Equateur.	7.25
24 " " Mongalla strips.	6.10

Sales during August amounted to 254 tons at firm prices, on the basis of the inscription sale of July 31. The August statistical table on the next page does not include in stocks the 337 tons received by the steamer *Anversville* from the Congo early in September. The stocks prior to the last sale were about 1100 tons.

ANTWERP RUBBER STATISTICS FOR AUGUST.

[By courtesy of C. SCHMID & Co.]

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, July 31. <i>kilos</i>	689,772	1,040,441	1,133,702	345,205	256,203
Arrivals, August....	321,192	286,816	498,188	299,604	108,757
Congo sorts.....	244,731	277,934	85,738	284,838	122,073
Other sorts.....	27,419	18,877	112,450	18,766	5,704
Aggregating....	1,010,964	1,327,257	1,631,890	644,809	365,000
Sales in August....	254,563	642,902	575,766	244,377	220,474
Stocks, August 31.	756,401	684,355	1,056,124	400,432	144,526
Arrivals since Jan. 1	3,558,830	3,838,870	4,167,418	2,395,870	1,222,048
Congo sorts.....	3,295,541	3,511,490	3,506,913	2,094,644	1,057,800
Other sorts.....	263,287	327,374	660,505	291,224	165,148
Sales since Jan. 1..	3,217,144	3,768,464	3,403,285	2,258,775	1,172,885

RUBBER ARRIVALS AT ANTWERP.

AUGUST 18.—By the *Albertville*, from the Congo:

Bunge & Co. (Société Générale Africaine) <i>kilos</i>	172,347
Do (Société Isangi)	5,063
Do (Comité Spécial Katanga)	1,042
Do (Plantations Lacourt)	6,000
Do (Société Anversoise)	30,000
Société A B I R.....	52,000
Ch. Dethier..... (Société anonyme "La Loanjé")	5,500
Do (Société Belgika)	2,000
Société Equatorial Congolaise.....	4,000
M. S. Cols..... (Société L'Ikelemba)	1,000
Do (Végétaux Kassai)	4,500
Do (Cie. Anversoise des Plantations du Lubéfu)	10,700
Société Coloniale Anversoise.. (Belge du Haut Congo)	10,000
Do (Cie. de Lomami)	9,000
Do (Cie des Mag. Généraux)	12,700
Do (Süd Kamerun)	6,000
Trafic Congolais.....	500
W. Mallinckrodt & Co..... (Alimaïenne)	5,000
Comptoir des Produits Coloniaux (Cie. de la N'Goko)	800
Do (Cie. des Produits de la Sangha)	250
	338,402

SEPT. 3.—By the *Anversville*, from the Congo:

Société Coloniale Anversoise..... <i>kilos</i>	3,000
Do (Belge du Haut Congo)	12,600
Do (Est du Kwango)	6,100
Do (Süd Kamerun)	5,000
Do (Cie. des Mag. Généraux)	12,600
Do (Lulonga)	6,000
Bunge & Co. (Société Générale Africaine)	164,272
Do (Sultanats du Haut Ubangi)	5,544
Do (Comité Spécial Katanga)	9,742
Do (Plantations Lacourt)	4,222
Do (Société Isangi)	5,005
Do (Société Anversoise)	10,734
M. S. Cols (Cie. Anversoise des Plantations du Lubéfu)	11,000
Do (Société "L'Ikelemba")	800
Do (Végétaux Kassai)	27,000
Ch. Dethier. (Cie. de la M. Poko)	1,700
W. Mallinckrodt & Co..... (Alimaïenne)	5,134
Société A B I R.....	17,200
Société Anonyme La Loanjé.	15,000
Cie. Commerciale des Colonies (Kassaienne)	9,800
L. & W. Van de Velde.. (Comptoirs Congolais Velde)	2,000
Crédit Commercial Congolaise (C. d'Heygere à Gand)	1,469
Evrard Havenith..... (Société Andrea)	2,000
	337,922

London.

SEPTEMBER 12.—The market has remained firm and prices show about $\frac{1}{2}d.$ advance. A fair business has been done, although less than in the preceding week, for want of sellers. Sales of fine hard Pará, December and January import, at 3s. $3\frac{1}{2}d.$ @ 3s. 4d.; fine Pará, September and October delivery, at 3s. $3\frac{1}{2}d.$; fine soft cure old at 3s. 3d.; ditto, new spot and forward 3s. 2d. @ 3s. $2\frac{1}{2}d.$; Mollendo fine 3s. $1\frac{1}{2}d.$; fine old Bolivian 3s. 4d. Negroheads scrappy continue scarce with sales at 2s. 7d.; Cametás 2s. 1d.; and Islands 2s. 1d. Peruvian ball

at 2s. 6d. @ 2s. $6\frac{1}{4}d.$, and slab 2s. 3d. — At auction to day three cases of Ceylon from Pará seed sold at 3s. $10\frac{1}{2}d.$ @ 3s. $10\frac{3}{4}d.$ for fine thin biscuits and 2s. $3\frac{1}{4}d.$ for good clean scrappy balls. Madagascar large fairly clean hard ball sold at 1s. $11\frac{3}{4}d.$. Mozambique sold at 2s. $6\frac{1}{2}d.$ for fair red balls mixed; a little sandy; 2s. $1\frac{3}{4}d.$ @ 2s. 2d. for soft white ball mixed a little reddish; and 2s. for ditto, slightly sandy. New Guinea, fair to good clean rather gummy ball 2s. $3\frac{1}{4}d.$ @ 2s. $4\frac{3}{4}d.$; ditto mixed some dark coated, 1s. $10\frac{1}{4}d.$ @ 2s. $\frac{1}{2}d.$; Balata character ball 2s. $1\frac{1}{4}d.$

Liverpool.

WILLIAM WRIGHT & Co. report [September 1]:

Fine Para.—There has been a strong demand during the month, and prices have advanced $3d.$ per pound; this was due to small receipts and American demand, there being practically no stock in the States. If receipts remain small we think prices must still further advance, until the heavier receipts coming in have their due effect on the market. Market closes steady, with buyers of Upriver Fine at 3s. $2\frac{1}{2}d.$; sellers 3s. 3d.; buyers Islands Fine at 3s. 1d., sellers 3s. $1\frac{1}{2}d.$. For delivery a good business has taken place, and a number of exchanges have eased the pressure somewhat. *African.*—The demand has continued during the month, and all good grades have met a ready sale at advanced prices. Sierra Leone and Cape Coast Lumps have risen 1d. per pound, and very little of either grade now offers.

Lisbon.

RECEIPTS OF INDIA RUBBER FROM JANUARY TO AUGUST, INCLUSIVE:

YEAR.	Benguela Niggers.	Loanda Niggers.	Congo Thimbles.	Other Sorts.	Total.
1902..... <i>tons</i>	572	530	53	70	1225
1901.....	698	509	91	45	1703
1900.....	1470	534	136	32	2172

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

September 5.—By the steamer *Polycarp*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co.....	27,500	11,400	24,300	.... =	63,200
Boston Rubber Shoe Co..	42,100	6,500	12,300	4,100 =	65,000
Reimers & Co.....	12,500	5,100	22,200	.... =	39,800
New York Commercial Co.	10,000	700	13,300	1,800 =	25,800
William Wright & Co....	10,800	300	11,700	.... =	22,800
Ed. Reeks & Co.....	16,300	1,200	1,900	.... =	19,400
Robinson & Tallman.....	8,000	1,400	1,200	.... =	10,600
G. Amsinck & Co.....	....	600	....	.... =	600
Total	127,200	27,200	86,900	5,900 =	247,200

September 9.—By the steamer *Sparta*, from Manáos and Pará:

Reimers & Co.....	53,100	12,100	59,700	1,200 =	126,100
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September 12.—By the steamer *Gregory*, from Manáos and Pará:

New York Commercial Co.	97,300	9,700	72,200	1,400 =	180,600
Reimers & Co.....	75,100	13,700	33,800	4,200 =	126,800
A. T. Morse & Co.....	68,200	13,500	39,800	.... =	121,500
William Wright & Co....	12,800	2,800	44,400	.... =	60,000
Boston Rubber Shoe Co..	21,200	1,400	2,600	1,800 =	27,000
Ed. Reeks & Co.....	6,400	1,300	1,400	.... =	9,100
United States Rubber Co..	....	....	....	2,400 =	2,400

Total ... 281,000 42,400 205,600 9,800 = 538,800

September 22.—By the steamer *Desterro*, from Manáos and Pará:

Reimers & Co.....	37,200	9,100	20,600 =	66,900
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September 22.—By the steamer *Hildebrand*, from Manáos and Pará:

New York Commercial Co.	60,000	11,700	62,700	600 =	135,000
A. T. Morse & Co.	54,400	14,100	48,300	.... =	116,800
Reimers & Co.....	42,100	41,400	15,900	.... =	99,400
Boston Rubber Shoe Co..	20,600	4,200	13,100	.... =	37,900
Edmund Reeks & Co.....	10,500	2,000	1,200	.... =	13,700
Robinson & Tallman... ..	5,200	2,000	700	.... =	7,900
William Wright & Co....	2,500	300	600	.... =	3,400

Total ... 195,300 75,700 142,500 600 = 414,100

[NOTE.—The steamer *Dunstan* is due at New York on October 1, with 215 tons of rubber. The *Galicia* is also on the way.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
AUG. 23.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co. (Fine)	22,600	
AUG. 24.—By the <i>La Gasconne</i> =Havre:		
Reimers & Co. (Fine)	16,000	
AUG. 28.—By the <i>Majestic</i> =Liverpool:		
George A. Alden & Co. (Fine)	22,400	
SEPT. 2.—By the <i>Etruria</i> =Liverpool:		
Reimers & Co. (Fine)	113,000	
SEPT. 3.—By the <i>Graf Waldersee</i> =Hamburg:		
Reimers & Co. (Fine)	7,500	
SEPT. 4.—By the <i>Germanic</i> =Liverpool:		
George A. Alden & Co. (Coarse)	22,300	
SEPT. 6.—By the <i>Campania</i> =Liverpool:		
Reimers & Co. (Fine)	27,000	
Reimers & Co. (Coarse)	22,600	
A. T. Morse & Co. (Cauchol)	33,500	83,100
SEPT. 8.—By the <i>La Bretagne</i> =Havre:		
Reimers & Co. (Coarse)	3,200	
Reimers & Co. (Cauchol)	25,500	28,700
SEPT. 11.—By the <i>Teulonic</i> =Liverpool:		
George A. Alden & Co. (Fine)	12,000	
George A. Alden & Co. (Coarse)	23,000	
Reimers & Co. (Fine)	13,000	
Reimers & Co. (Coarse)	11,500	
A. T. Morse & Co. (Coarse)	7,000	66,500
SEPT. 11.—By the <i>Pennsylvania</i> =Hamburg:		
A. T. Morse & Co. (Fine)	10,000	
A. T. Morse & Co. (Coarse)	22,500	
A. T. Morse & Co. (Cauchol)	4,000	26,500
SEPT. 13.—By the <i>Umbria</i> =Liverpool:		
Reimers & Co. (Fine)	44,700	
A. T. Morse & Co. (Fine)	23,700	
A. T. Morse & Co. (Coarse)	10,200	78,600
SEPT. 17.—By the <i>Oceanic</i> =Liverpool:		
Reimers & Co. (Fine)	10,200	
SEPT. 20.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co. (Fine)	46,000	
Reimers & Co. (Fine)	45,000	91,000
SEPT. 23.—By the <i>Advance</i> =Mollendo:		
New York Commercial Co. (Fine)	8,500	
New York Commercial Co. (Coarse)	2,500	11,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.	
AUG. 26.—By the <i>Alleghany</i> =Greystown:		
E. B. Strout	11,000	
Livingstone & Co.	2,000	
A. D. Straus & Co.	1,000	
G. Amsinck & Co.	700	
A. M. Capen Sons	2,500	
M. A. DeLeon	1,300	
Lawrence Johnson & Co	2,000	
Kunhardt & Co.	400	20,500
AUG. 28.—By the <i>Majestic</i> =Liverpool:		
Reimers & Co.	4,500	
Joseph Cantor	4,500	9,000
AUG. 29.—By the <i>El Dorado</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	6,000	
A. T. Morse & Co.	1,200	
G. Amsinck & Co.	1,200	8,400
SEPT. 2.—By the <i>Proteus</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	1,600	
A. T. Morse & Co.	1,000	2,600
SEPT. 3.—By the <i>Graf Waldersee</i> =Hamburg:		
A. T. Morse & Co.	1,400	
Reimers & Co.	1,100	2,500
SEPT. 3.—By the <i>Alliance</i> =Colon:		
G. Amsinck & Co.	11,800	
American Trading Co.	8,700	
Hirzel, Feltman & Co.	8,600	
A. Santos & Co.	5,700	
Isaac Brandon & Bros.	5,600	
Dumarest & Co.	2,800	
Lawrence Johnson & Co.	2,300	
W. Loaliza & Co.	1,500	
Silva, Bussenius & Co.	1,200	
Kunhardt & Co.	800	
Jimenez & Escobar	600	
Harburger & Stack	200	
Graham, Hinkley & Co.	100	52,900
SEPT. 6.—By the <i>Vigilancia</i> =Mexico:		
Theband Brothers	500	
E. Stelger & Co.	700	

CENTRALS—Continued.

Graham, Hinkley & Co.	200	
E. N. Tibbals & Co.	100	
For Hamburg	5,000	6,500
SEPT. 8.—By the <i>Carib</i> =Truxillo:		
Eggers & Heinlein	5,800	
G. Amsinck & Co.	1,900	
J. W. Welson & Co.	800	
H. W. Peabody & Co.	900	9,400
SEPT. 9.—By the <i>Finnee</i> =Colon:		
Eggers & Heinlein	2,500	
Andreas & Co.	1,200	
Pomares & Cushman	300	
American Trading Co.	300	
H. Marquardt & Co.	100	4,400
SEPT. 10.—By the <i>Athos</i> =Greystown, etc.:		
E. B. Strout	5,500	
A. D. Straus & Co.	2,500	
G. Amsinck & Co.	2,000	
D. A. DeLima & Co.	2,000	
Jimenez & Escobar	3,000	
E. V. Sperling	1,000	
C. Weesels & Co.	300	16,300
SEPT. 16.—By the <i>Segura</i> =Colon:		
Hirzel, Feltman & Co.	13,600	
A. Santos & Co.	7,900	
A. M. Capen Sons	6,300	
G. Amsinck & Co.	4,200	
American Trading Co.	2,100	
Roldan & Van Sickle	1,600	
Lawrence Johnson & Co.	1,300	
E. B. Strout	1,100	
Kunhardt & Co.	1,100	33,300
SEPT. 17.—By the <i>Oceanic</i> =Liverpool:		
Joseph Cantor	4,000	
SEPT. 16.—By the <i>Louisiana</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	10,000	
A. T. Morse & Co.	3,500	13,500
SEPT. 17.—By the <i>Altus</i> =Savanilla, etc.:		
G. Amsinck & Co.	5,000	
D. A. DeLima & Co.	3,000	
Roldan & Van Sickle	1,500	
A. D. Straus & Co.	1,000	
Lawrence Johnson & Co.	700	
Racines & Co.	300	
For London	2,000	13,500
SEPT. 19.—By the <i>El Dorado</i> =New Orleans:		
G. Amsinck & Co.	2,000	
Manhattan Rubber Mfg. Co.	2,000	
Eggers & Heinlein	600	4,600
SEPT. 22.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.	2,700	
SEPT. 23.—By the <i>Alleghany</i> =Greystown:		
E. B. Strout	5,000	
G. Amsinck & Co.	2,200	
A. D. Straus & Co.	2,000	
John Boyd, Jr. & Co.	500	9,700
SEPT. 23.—By the <i>Advance</i> =Colon:		
A. Santos & Co.	9,400	
G. Amsinck & Co.	5,200	
Hirzel, Feltman & Co.	4,900	
Isaac Brandon & Bros.	2,600	
M. A. de Leon	1,300	
Dumarest & Co.	1,700	
L. N. Chemedin & Co.	1,000	
W. Loaliza & Co.	1,000	
Everett, Heaney & Co.	700	
H. Marquardt & Co.	300	26,800

AFRICANS.

	POUNDS.	
AUG. 23.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.	45,000	
Reimers & Co.	24,000	
A. T. Morse & Co.	17,000	86,000
AUG. 25.—By the <i>Noordham</i> =Rotterdam:		
A. T. Morse & Co.	24,000	
AUG. 25.—By the <i>Peninsula</i> =Lisbon:		
A. T. Morse & Co.	112,000	
Reimers & Co.	72,500	184,500
AUG. 26.—By the <i>Blucher</i> =Hamburg:		
A. T. Morse & Co.	30,000	
George A. Alden & Co.	3,000	
Reimers & Co.	3,000	
Otto Meyer	2,500	28,500
AUG. 28.—By the <i>Majestic</i> =Liverpool:		
A. T. Morse & Co.	24,000	
Reimers & Co.	10,000	34,000
SEPT. 2.—By the <i>Bohemian</i> =Liverpool:		
George A. Alden & Co.	28,000	

AFRICANS—Continued.

SEPT. 2.—By the <i>Friesland</i> =Antwerp:		
A. T. Morse & Co.	17,000	
Otto Meyer	16,000	
George A. Alden & Co.	12,000	
Reimers & Co.	1,000	49,000
SEPT. 3.—By the <i>Graf Waldersee</i> =Hamburg:		
Reimers & Co.	14,500	
George A. Alden & Co.	11,500	26,000
SEPT. 5.—By the <i>Menominee</i> =London:		
Reimers & Co.	44,000	
SEPT. 4.—By the <i>Germanic</i> =Liverpool:		
Reimers & Co.	28,000	
A. T. Morse & Co.	13,000	
Joseph Cantor	7,000	
George A. Alden & Co.	3,000	51,000
SEPT. 6.—By the <i>Campania</i> =Liverpool:		
Reimers & Co.	38,000	
George A. Alden & Co.	11,500	
Ideal Rubber Co.	2,000	
William Wright & Co.	1,000	52,500
SEPT. 8.—By the <i>Vaderland</i> =Antwerp:		
Reimers & Co.	41,000	
SEPT. 9.—By the <i>Cerie</i> =Liverpool:		
George A. Alden & Co.	56,000	
SEPT. 11.—By the <i>Teulonic</i> =Liverpool:		
George A. Alden & Co.	30,000	
Reimers & Co.	11,000	
A. D. Straus & Co.	9,000	50,000
SEPT. 11.—By the <i>Pennsylvania</i> =Hamburg:		
George A. Alden & Co.	43,300	
A. T. Morse & Co.	24,000	
Robinson & Tallman	8,500	
Reimers & Co.	3,000	
Otto Meyer	2,000	80,500
SEPT. 13.—By the <i>Umbria</i> =Liverpool:		
George A. Alden & Co.	23,000	
A. T. Morse & Co.	9,000	
Ideal Rubber Co.	1,000	33,000
SEPT. 13.—By the <i>St. George</i> =Antwerp:		
Otto Meyer	9,500	
SEPT. 13.—By the <i>Kroonland</i> =Antwerp:		
Reimers & Co.	60,000	
SEPT. 15.—By the <i>Cymric</i> =Liverpool:		
Reimers & Co.	82,000	
George A. Alden & Co.	67,000	
A. T. Morse & Co.	24,000	173,000
SEPT. 15.—By the <i>Ryndam</i> =Rotterdam:		
A. T. Morse & Co.	70,000	
Reimers & Co.	22,000	
George A. Alden & Co.	8,000	
Joseph Cantor	10,000	110,000
SEPT. 16.—By the <i>Moltke</i> =Hamburg:		
Otto Meyer (Boston)	48,000	
Robinson & Tallman	17,000	
George A. Alden & Co.	25,000	
Renais & Co.	13,500	
Otto Meyer	5,000	108,500
SEPT. 20.—By the <i>Oceanic</i> =Liverpool:		
George A. Alden & Co.	24,000	
Reimers & Co.	31,000	55,000
SEPT. 20.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.	19,000	
Robinson & Tallman	22,500	41,500
SEPT. 22.—By the <i>Zeland</i> =Antwerp:		
A. T. Morse & Co.	22,500	
Reimers & Co.	8,500	31,000

EAST INDIAN.

	POUNDS.	
AUG. 28.—By the <i>Vaughall Bridge</i> =Calcutta:		
Reimers & Co.	3,000	
SEPT. 2.—By the <i>St. Paul</i> =Southampton:		
Henry A. Gould & Co.	2,000	
SEPT. 8.—By the <i>Shimosa</i> =Singapore:		
William Wright & Co.	16,000	
PONTIANAK.		
AUG. 30.—By the <i>Celtic</i> =Liverpool:		
William Wright & Co.	11,000	
SEPT. 8.—By the <i>Shimosa</i> =Singapore:		
Robert Brans & Co.	320,000	
George A. Alden & Co.	350,000	
Reimers & Co.	310,000	
C. Nordbans	12,000	
William Wright & Co.	33,000	1,025,000

GUTTA-PERCHA AND BALATA.

POUNDS.	
AUG. 23.—By the <i>Lucania</i> =Liverpool:	
W. H. Cummings & Sons	3,500
SEPT. 8.—By the <i>Shinosa</i> =Singapore:	
Earle Brothers	2,500
SEPT. 15.—By the <i>Columbia</i> =Glasgow:	
Spaulding Mfg. Co.	3,500
BALATA.	
AUG. 26.—By the <i>Blucher</i> =Hamburg:	
To Order	2,500
SEPT. 15.—By the <i>Prins Willem I.</i> =Trinidad:	
G. Amsinek & Co.	500
SEPT. 15.—By the <i>Minnetonka</i> =London:	
Henry A. Gould & Co.	4,500
SEPT. 22.—By the <i>Minchaha</i> =London:	
Earle Brothers	2,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—AUGUST.

POUNDS.		VALUE.	
Imports:			
India-rubber	3,181,210	\$1,425,323	
Gutta-jelutong (Pontianak) ..	832,147	20,253	
Total	4,013,357	\$1,445,576	
Exports:			
India-rubber	57,917	\$24,582	
Reclaimed rubber	63,704	7,998	
Rubber Scrap Imported	1,395,362	\$80,701	

BOSTON ARRIVALS.

POUNDS.	
AUGUST 7.—By the <i>Adria</i> =Hamburg:	
Otto Meyer—African	11,271
AUGUST 9.—By the <i>Ullonia</i> =Liverpool:	
George A. Alden & Co.—African	11,028
AUGUST 9.—By the <i>Ullonia</i> =Liverpool:	
Otto Meyer—African	12,258

AUGUST 13.—By the <i>Ivernia</i> =Liverpool:	
Reimers & Co.—African	13,608
AUGUST 23.—By the <i>Arianian</i> =Liverpool:	
William Wright & Co.—African	11,706
AUGUST 16.—By the <i>Vaderland</i> =Antwerp:	
William Wright & Co.—African	10,984
AUGUST 23.—By the <i>Michigan</i> =Liverpool:	
Reimers & Co.—African	12,347
AUGUST 25.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—African	20,768
AUGUST 25.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—African	33,106
Total Imports	137,076
[Value, \$62,614.]	
PONTIANAK.	
AUGUST 20.—By the <i>Bostonian</i> =London:	
Amermann & Patterson	5,669

AUGUST EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Pritsse & Co.	22,270	2,720	53,640	—	78,630	71,570	11,900	26,020	—	109,490	188,120
Frank da Costa & Co.	—	2,474	76,308	3,776	82,552	80,328	9,062	62,568	1,650	153,608	236,160
Adelbert H. Alden	34,590	7,340	47,910	573	90,413	68,370	13,130	28,520	900	110,920	201,333
Neale & Staats	—	—	4,480	—	4,480	14,730	1,360	4,480	1,045	21,615	26,095
Denis Crouan & Co.	6,277	1,355	20,299	—	27,931	1,175	169	8,100	—	9,444	37,375
P. Mourraile & Bros.	—	—	—	—	—	—	—	—	8,887	8,887	8,887
Pires, Teixeira & Co.	—	—	—	—	—	3,862	—	1,180	—	5,042	5,042
Direct from Iquitos.	—	—	—	—	—	2,859	—	518	35,521	38,898	38,898
Direct from Manáos	242,172	47,375	61,211	9,206	359,964	170,313	24,803	13,761	10,592	220,469	580,433
Total for August	305,309	61,264	203,848	13,549	643,970	414,207	60,424	145,147	58,595	678,373	1,322,343
Total for July	244,318	54,179	252,267	78,880	629,674	370,933	54,301	101,699	168,392	695,316	1,324,990
TOTAL, CROP YEAR	549,657	115,443	516,115	92,429	1,273,644	785,140	114,725	246,837	226,987	1,373,689	2,647,333

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1902	3,248,581	224,331	3,024,250	July, 1902	2,788,128	2,539,840	148,288
*January-June	27,059,553	1,878,299	25,181,254	January-June	26,287,968	15,150,688	11,137,280
Seven months, 1902	30,308,134	2,102,630	28,205,504	Seven months, 1902	29,076,096	17,790,528	11,285,568
Seven months, 1901	34,899,446	2,172,839	32,726,605	Seven months, 1901	31,518,144	18,871,552	12,646,592
Seven months, 1900	28,364,134	2,429,072	25,935,062	Seven months, 1900	38,102,736	20,015,632	18,087,104
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1902	3,071,640	1,302,620	1,769,020	July, 1902	102,960	5,720	97,240
January-June	16,475,140	6,280,560	10,194,580	January-June	767,800	75,240	692,560
Seven months, 1902	19,546,780	7,583,180	11,963,600	Seven months, 1902	870,760	80,960	789,800
Seven months, 1901	17,127,000	6,590,100	10,536,900	Seven months, 1901	897,820	117,040	790,780
Seven months, 1900	17,859,380	5,542,020	12,317,360	Seven months, 1900	980,980	—	—
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1902	1,058,200	556,380	501,820	July, 1902	191,400	3,960	187,440
January-June	8,955,320	4,361,280	4,594,040	January-June	1,408,880	6,820	1,402,060
Seven months, 1902	10,013,520	4,917,660	5,095,860	Seven months, 1902	1,600,280	10,780	1,589,500
Seven months, 1901	10,162,020	6,310,920	3,851,100	Seven months, 1901	1,384,020	19,580	1,364,440
Seven months, 1900	11,039,380	5,655,760	5,383,620	Seven months, 1900	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* Corrected figures.



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THE RECENT LABOR TROUBLES.

THE strike in the Pennsylvania anthracite coal fields that has just ended, after having continued since May, was of far more general importance than is usual with industrial strikes. For one thing, it led to a wider appreciation of the idea that other interests are involved in such an emergency than those of striking workmen and their employers. The quality of coal mined in Pennsylvania is a necessity to millions of people, and in the settlement of the strike was recognized the injustice of having the public suffer through any disagreement between the interests directly concerned with mining. It was this consideration that induced the president of the United States, though not empowered either by the constitution or the laws of the country to take any official action in the premises, but as the representative of the whole people, to seek to bring about an understanding between the miners and the coal companies that would result in the resumption of mining. Fortunately the efforts of Mr. Roosevelt have been crowned with success, while not giving cause to either side to feel that its course has been vindicated. The principle involved has been the recognition of the right of the people not to be deprived of a necessity of life while the producers are engaged in a dispute, and doubtless one permanent result will be some legislation for the better protection of the peoples' rights in like cases in future.

Apart from this consideration, the subject possesses a special interest for the rubber trade in the United States because at this time the professional organizers of labor are endeavoring in more than one center to bring about the control of rubber workers in a body under regulations in which the employers of the latter shall have no voice. The history of the India-rubber industry in this country for more than a half century is full of evidence of fair dealing toward employes of every class, and the industry as a whole has been singularly free from the labor troubles known as "strikes." Around every large factory of long standing has grown up a laboring population living in contentment and comfort, one generation succeeding another in the employ of the same company, the workmen making good citizens, and many accumulating a competency, while the more capable have in time become superintendents, managers, and even proprietors. But such conditions do not prevent the breeding of trouble the moment that an element is introduced in the shape of a third party—the labor union—when the latter assumes to stand as an intermediary between employe and employer, and works assiduously to cultivate the impression that the interests of the two classes are antagonistic. What has happened in the anthracite coal regions may be duplicated, though on a smaller scale, in any rubber manufacturing center.

It appears that, until within a few years, no labor union existed among the anthracite coal miners, and that such cases of friction as did occur between the miners and their employers were usually settled to their mutual satisfaction after the two parties at interest had conferred. The large number of foreigners employed in the collieries, speaking a dozen or more different languages, made a

mental understanding more difficult, but still serious troubles were avoided, and the same wage rate was long maintained, without regard to the selling price of coal, the rate being higher than could be earned by carpenters, railway employees, or in any other wage earning capacity in the same region. Then came the professional agitator, representing the United Mine Workers of America, a body which had gained great influence in the bituminous coal districts, pointing out that the miners, by paying monthly dues to the union, could call to their aid that mighty organization in bettering their condition, and gain the "whip hand" over the rich mine owners instead of remaining their "slaves." Such seed fell on fruitful ground, especially in the minds of foreigners and the thousands of boys employed. Local unions sprang up, in which every complaint made by a miner was magnified into a "grievance," with the result that foremen and superintendents soon found their time largely occupied with the settlement of troubles, in which they had to deal, not with the aggrieved employé, but with an outside influence. The owners of the properties found themselves with nothing to do but pay wages, all the details of management being assumed by the obliging gentlemen with headquarters at Indianapolis, Indiana, supported by the dues paid by the miners. The owners could hire whom they pleased, but if a new man couldn't show a "card" work was stopped until he paid for one, or was discharged. The owners could discharge a man, without the approval of the union, only by provoking a strike. The "local" ordered holidays, stopping all work, without giving notice to the owners, and sought generally to ignore the latter save on pay day.

In October, 1900, the first strike occurred, under the new conditions, to settle which the mining companies advanced wages 10 per cent., and the strike last spring was called to enforce a demand for "arbitration" relating to a further increase of 20 per cent. in pay for contract work, and an eight hour day with ten hours pay for time work. "Arbitration" in this case meant definite recognition of the Indianapolis headquarters as the medium for communication with the companies' own employés. Upon the refusal of the mine owners to grant such recognition the strike was called, after which time the owners became engaged in a struggle to save their property from destruction; non union men were intimidated to prevent their going to work, and tradesmen or others who countenanced the "scabs" were rigorously boycotted.

The spirit of the union has been best demonstrated in the fact that one great obstacle to bringing about the agreement suggested by President Roosevelt was the demand made by the mine owners that on the resumption of work their non union employés should not be molested, and the unwillingness of the union to consent to this. Another thing to which the union objected was a suggestion by the mine owners that any future grievances should be reported to them by committees of their own employés, instead of from a foreign source.

We have been unable to learn that the coal mine owners are opposed to the organization of labor, and we are certain that the rubber manufacturers are not, provided the

spirit of the organization is not such as to destroy confidence between employé and employer, and make direct communication between the two classes difficult or impossible. One thing certain is that the rubber industry in the United States never could have attained its present importance if Christopher Meyer, John H. Cheever, Joseph Banigan, and Elisha C. Converse—not to mention other forceful founders and their successors—could have dealt with their employés only through the medium of a union executive committee, working on the theory that all rubber workers are built in the same mold and that the most inefficient is entitled to the maximum wage for a minimum day's work. Another thing certain is that the industrial progress of Great Britain has been retarded by an incubus of tradesunionism which, instead of holding out an inducement to every worker to do his best, has tended to lower the standard of work to the capacity of the least competent.

If Mr. John Mitchell, the leader of the coal miners' organization, should happen to discharge an office boy and find himself unable to secure another of his choice on account of intimidation by a committee of some International Office Boys' Union, stationed outside his door, he probably would appeal to the police to stop the interference, although the same principle is illustrated in the working of the plan to prevent every man from mining coal who does not recognize Mr. Mitchell's authority in the premises.

BRAINS AS AN ADULTERANT OF RUBBER.

WISE men are ever counselling those to whom they wish well to buy brains, but until recently no attempt has been made to fix a definite commercial value for this commodity. It is particularly interesting to note that the first practical advance in this direction appears to have been made through the enterprise of a rubber manufacturing company. The fact has become public through a circular issued by the company, stating:

"We mix a dollar's worth of brains with every ounce of rubber we buy."

THE INDIA RUBBER WORLD expert, who is fairly up in compounds, was more than interested to see the goods produced by this new adulterant. He therefore secured a sample of the finished goods, examined it carefully by the ordinary tests, the following compound being indicated:

Pará rubber, 1 pound.
Litharge, 1 pound.
Brains, 16 pounds.
Sulphur, 6 ounces.

Just what grades of brains were used it was impossible to determine—whether coarse, medium, or fine, or indeed whether reclaimed brains were used. It appears, however, that the 16 pounds of brains displaces about 2 pounds of ordinary ingredients, say whiting and oxide of zinc, worth about 6 cents. The company, therefore, are paying \$16 for ingredients instead of 6 cents paid by their competitors. Of course, they may not pay a dollar a pound, for they say a dollar's *worth*, but we warn them that to compete they must get a grade of brains costing not more than $\frac{3}{4}$ cent per pound.

A GOVERNMENT REPORT ON RUBBER.

SINCE the United States department of agriculture has been understood for some time past to be devoting special attention to the subject of rubber culture, on account of the possibility of developing this interest in our new tropical possessions, the space devoted to this subject in its latest annual publication* and the treatment accorded to it are likely to prove disappointing to those who may look to this volume for information. In a report on "Agriculture in the Tropical Islands of United States," by Mr. O. F. Cook, botanist in charge of investigations in tropical agriculture, less than two pages, under the heading "Rubber and Gutta-percha," form the single reference to the matter under discussion. The spirit in which Mr. Cook writes is decidedly unfavorable to the formation of rubber plantations. He says, for example: "Notwithstanding widespread interest and the investment of millions of dollars, it cannot be said that rubber culture has passed the experimental stage, if indeed that period has been fairly reached." But there is no reference to any experiment made in any country, or to the results, in such detail as will enable the reader to look into the subject further with a view to satisfying himself as to the present status of rubber cultivation, or to investigate the reasons for "the investment of millions of dollars" which is still going on.

Mr. Cook says again: "Moreover, it is known that many rubber plantations established with the most lively expectations have been abandoned because the anticipation of a profitable yield of rubber from cultivated trees proved to be fallacious." This report would have been more complete and more convincing had it been followed by a list of such plantations and of their locations. As a matter of fact, there has not been time, since the systematic planting of rubber on a commercial scale began actively, for very many of the plantations to become productive, and, so far as we can learn, the results attained have been such as to encourage very many others to engage in this branch of planting. There is reason to believe that more rubber trees have been planted in Ceylon, the Malay peninsula, Burma, Mexico, Central America, and the West Indies during the last twelve months than in any previous year, and in the list of plantations on record in THE INDIA RUBBER WORLD office—which includes all that we have been able to gain any knowledge of during the past ten years—there has been no case of abandonment of trees once planted. Mr. Cook admits, however, that "similar disappointments, misapprehensions, and misrepresentations"—referring to the prospectuses of certain companies formed to plant rubber in Mexico and Central America—"have, of course, marked the early history of many finally successful and important industries."

The author of this report seems to think that a particularly weak point in the projected rubber planting enterprises is a lack of definite botanical knowledge as regards species yielding rubber, and he notes that "the traditional rubber tree of Pará has recently been described as a new species and found to be quite different from the *Hevea Brasiliensis*, with which it has so long been confused." We don't believe that any botanist to-day is prepared to designate without "confusion" the several species which actually yield the rubber product of the Amazon valley. But, none the less, the trees found there yield the same quality of rubber, whether termed *Hevea Brasiliensis*, *Siphonia Kunthiana*, or *Jatropha elastica*—all of which designations have been applied by botanists of standing to a single species, to say nothing of designations by writers of less reputation.

* Year Book of the United States Department of Agriculture. 1901. Washington: Government Printing Office, 1902. [8 vo. Pp. 846+xc plates.]

Of course, it will be wise for any intending planter of rubber to first be assured that the species which he is planting is one which actually produces rubber. But it is hardly fair for Mr. Cook to quote as a discouraging fact a recommendation by some unnamed person that *Eucommia ulmoides*—a plant found in China—be cultivated for the sake of Gutta-percha, when, as he states, "Gutta-percha would need to be worth \$60 a pound before the culture of *Eucommia* would become profitable." The fact that this plant contains a small quantity of Gutta-percha has been printed rather widely within two years past, but a careful reading of all the journals devoted to tropical planting fails to show in any case a recommendation that the species referred to be planted as a source of Gutta-percha.

We regard it as the province of a government bureau charged with the advancement of planting interests to guard the readers of its publications against wrong courses, no less than to point out new channels for profitable industry. But the greatest agricultural department in the world, and one whose statements are received with respect in every country, should not, in a comprehensive review of cultural progress for the year, touch upon the subject of rubber cultivation in such a way as to leave the impression that no practical results have been attained, that the "experimental stage" has not even been "fairly reached," and that many rubber plantations established have been abandoned. A not unreasonable inference from this report would be that there is no practical rubber planting in existence. However, Mr. Cook has since visited some rubber plantations in Mexico, and the results of his observations may appear in later reports of a different character.

THE UNITED STATES IS THE ACKNOWLEDGED HOME of the gum chewer. Not in England, France, Germany, nor Russia are to be found factories for the production of this luxury, nor a market for it. This is not only acknowledged by the benighted denizens of those lands, but they bear evidence of being proud of it. Who can assert, however, that this habit, if it has not a distinct civilizing effect, may not at least be a natural defense against certain weaknesses which some other movements of the jaws entail? An ancient saying has it "He that ruleth his spirit is greater than he that taketh a city." Its modern paraphrase might well be "He that holds his jaw is greater than he that taketh Manila." This then is the *crux* of the whole matter. Gossip, hack biting, foolish speaking are all "knocked out" by the odorous strip of chicle and sugar. And what of the national conservation of energy resulting from this general silent jawing—particularly among the petticoated? This is why the Filipino has a future equal to our own. He is a gum chewer, taps his own *Sapota* trees, and makes and markets lots of gum. Welcome, brother!

IT MAY HELP TO QUIET THE NERVES of some people who have been so badly frightened over the gigantic power of the Trusts to hear that on the date for the regular annual meeting of the American Bicycle Co. not enough shareholders appeared for the transaction of business. There are some other Trusts that, without the skilful application of stimulants, are not likely to survive long enough for the attacks by the outraged and injured public that certain prominent citizens are urging.

THERE IS NO MORE INTERESTING FIELD for study or experiment, in connection with the rubber industry to-day, than that offered by the tire interest. Some matters worth considering with regard to tires of various kinds are discussed in the letters in this issue from Great Britain and from Akron, Ohio.

THE RUBBER GOODS TRADE IN GERMANY.

[FROM THE "GUMMI-ZEITUNG," DRESDEN.]

THE situation of the rubber goods dealer in Germany to-day is not one to be envied. With keen competition on the one hand and a market that has halted in its advance, and even receded, on the other hand, it is no wonder that complaints are becoming more numerous. Viewing trade conditions in general, the rubber branch is not the only one which has cause for complaint; indeed, it has fared better than some other branches of the industry which depend upon the consumption of articles of luxury, and even of necessity, of the public at large.

The general condition of trade is anything but favorable. The hope entertained at the beginning of the year, that the lowest point had been touched and that an advance was about to be seen, has come to naught. The painful reaction of the losses of the general public, and most unfavorable weather conditions, have created a depression which, in certain branches, approaches apathy. The condition of business for months has been a dragging one and complaints are heard in every direction of slow payments, scarcity of cash, and the unreliability of commercial paper. That the rubber business is bound to be affected by this general condition is self evident, but a certain advantage in this branch is that the majority of rubber articles produced are a necessity. It is for this reason that the complaints from retail dealers in surgical and hygienic goods are less frequent than those related to the technical branches, where the depression has become most marked. Of course, at such times many complaints uttered may be dismissed with slight consideration, since some persons seem to feel themselves in duty bound to join in a general lamentation, even when no individual cause for it exists.

If competition would only refrain from working forever to depress prices! There are other means remaining to obtain trade. This, no doubt, is felt by every sound dealer, and yet if the circumstances are such that there is danger of losing a customer it is not easy to resist the temptation to cut prices, even to a point which renders a profit impossible. There is here what amounts to an utter lack of principle in trade. The desire to grasp every chance of doing business, and to let nothing escape or go into the hands of one's competitors even if at a loss, is what inflicts the deepest wounds in the rubber goods trade, and makes conditions worse than they should be even under the prevailing unfavorable state of trade.

The offers of goods now exceed the wants, and inclination to buy is lacking. But do conditions drive the people, or are the latter responsible for causing and shaping conditions? Does the business world intend to rest on the standpoint of fatalism—to suffer everything and await in indolence the solution of the existing conditions? That point we hope has not been reached, but if it should be so then, of course, "All hope abandon ye who enter here." We believe that yet man can influence and frame conditions, and there is none so powerful but that with energy and confidence it can be overcome. And, therefore, it is timely to counsel the rubber goods dealers to exhibit a little more courage and self reliance, a little more character and principle in business, and then matters will mend, slowly perhaps, but surely.

The first stand to be made must be against price cutting and the lowering of quality, and consumers must be made to understand that rubber goods are articles of trust and that the cheapest purchase is generally the dearest in the end. With patience and perseverance consumers can be made to see their own advantage. The cutting of prices will never build

up a lasting business; the trade will revert finally to conservative dealers and the less these recede from sound trade principles, the more loyal their clientage will be and the more difficult for competition to draw it from them. Firmness and character create confidence everywhere. The rubber goods trade was formerly renowned for its solidity, and so it should be now. Though transactions may fall off for the time being, that does not decide the value of a business, but the relation of profits to sales does. Every business man irreparably injures himself when he swells his sales at the cost of his profits. To be affable and obliging in all transactions should never be overlooked, but none the less the merchant should firmly refuse every transaction which does not guarantee the minimum fixed rate of profit. The competition which works on an unsound foundation, closing *à tout prix*, and continually introduces goods of lower quality, must finally run its course and be swept aside.

It is imperative, therefore, for every sound business man to plant himself, during such conditions as now prevail, so firmly as to be able to be prepared for the time of prosperity which is certain to come. Two things in the rubber goods trade to be held in the highest esteem are *price* and *quality*, and this is true to-day, perhaps, more than ever before.

TREATMENT OF "FICUS ELASTICA."

THE proper treatment of young "rambong" rubber (*Ficus elastica*—the rubber of Assam) is a matter upon which planters are not yet agreed. Mr. E. V. Carey, of Klang, Selangor, writes in the Straits *Agricultural Bulletin*, that his plantation of this variety, at the age of three years, contains many trees 25 feet in height, with a spread of about 30 feet in diameter, the foliage being almost impenetrably dense and reaching right down to, and in some cases, spreading out along the ground. The soil is the richest drained alluvial, the trees being apparently much more at home in it than on the hills, where the growth is very much slower, and nothing like the same quantity of leaf is to be seen. It has been regarded by some as proper to lop "rambong" trees when young and keep them to a single stem, plus one or two sturdy aerial roots, but Mr. Carey thinks that such pruning gives the trees too great a shock. On his own plantation, on forcing his way under the trees, he finds them to be "casting" numbers of both branches and aerial roots, as if these had been smothered by the dense shade and had rotted off naturally. It is obvious to him that the trees are healthy and that this falling off of the branches is natural and not a result of disease. "It is my belief," he adds, "that we shall have an infinitely bigger tapping area to work upon, when we once get to work in earnest, than if we had trimmed our stems up; whether the *latex* will be as rich in caoutchouc, when collected from the thick branches as well as the aerial roots and stem, remains to be seen, but I am sure the yield must be far heavier." One of Mr. Carey's trees, four years old, tapped on two successive days, yielded $\frac{1}{2}$ pound of dry scrap rubber. On the third day the flow of *latex* was so scant that the tree was left alone, but he thought that the treatment could be repeated within a month. F. A. Calloway, also of Klang, reports in the *Agricultural Bulletin* the tapping of a *Ficus elastica* at the age of 4 years and 1 month, the yield being 5 ounces the first time and $2\frac{3}{4}$ ounces the second. He expects a yield of $\frac{1}{2}$ a pound per tree in the sixth year. R. C. N. Kindersley, of the Inch Kenneth estate, Kajang, Selangor, informs the Straits *Agricultural Bulletin* that five Pará rubber trees, six years old, tapped for fifteen consecutive days in January last, on the "herring bone" system yielded an average of 1 pound 2 ounces per tree

AMERICAN PRODUCTION OF INSULATED WIRES.

*By Thomas Comerford Martin.**

WITH regard to the manufacture of insulated wires and cables, Mr. H. A. Reed, a veteran American leader in the industry, states that no braiding on wires was done prior to 1857. In the early days the wire was wrapped with cotton or silk, which was done in many instances by means of the machines employed to wrap similarly the wires used in women's bonnets, the machinery being also of the class used in wrapping the wire or strips used in crinoline. It appears that this machinery, in its first use on electric wires, was brought to the United States by an Englishman named Moore, who settled in Philadelphia and there founded a very prosperous industry, still in existence. It seems unquestionable that he covered wire for Professor Joseph Henry in the early thirties, to be used in some of the earliest experiments in telegraphy.

About the year 1857, under a patent for machinery used in braiding whips, an inventor named F. Bridges began to develop the art of putting braid upon wires. In 1859 he was employed by Mr. Bishop, one of the founders of the art of covering wire with Gutta-percha, and from that time on the art of braiding wire was generally developed. With regard to insulating wire with Gutta-percha, it would appear that in 1846 Siemens began experimenting in Berlin with Gutta-percha covered wire, and that in 1847 several miles of it, protected outside with lead were laid. In the United States, as far back as 1849, a patent for the insulation of electric wires by glass beads was applied for by Mr. G. B. Simpson, who also, in 1858, applied for a patent on applying a solution of Gutta-percha over the metallic wire by a brush. It would appear, however, that in 1848 a patent was issued to Professor Durant for a solution of Gutta-percha by chloroform for this purpose. According to excellent authority,† as early as 1847 a piece of Gutta-percha insulated wire was tried near Elizabeth, New Jersey, for telegraphic work, and worked successfully. A similar piece was laid at the draw-bridge of the Passaic river.

In 1848 Mr. J. N. Alvord, in place of telegraphic wire strung across the Mississippi at St. Louis, from a shot tower to a mast, laid a Gutta-percha covered wire inclosed in lead, on the bed of the river, by means of a fleet of scows. This breaking down, he constructed the following year on the banks of the river, largely with his own hands, another Gutta-percha cable armored with No. 9 exterior iron wire, which appears to have served its purpose admirably. Other experiments followed until, in 1856, Mr. S. C. Bishop laid across the Hudson river, from New York to Hoboken, an armored cable with three Gutta-percha covered conductors. This was a successful, practical solution of the difficulties in carrying telegraphic circuits—the only electrical circuits then known—across rivers, etc., and touches the period of submarine cable work. Similar cables were at once laid in other rivers; the old masts for aerial wires were abandoned, and there was passed the last of the primitive stages that have led up to the development of an industry to which, in the census year, is credited a production of insulated wires and cables to the value of \$21,292,001.

So far as known all the earlier insulated wire manufactured in America was for such cables as are referred to above, and possibly for a small amount of interior work. Mr. Eugene F. Phillips, a veteran manufacturer in this field, referring to his ledgers of 1874, states that he believes he made the first braided wire used for any "outside" purposes in this country, the purchaser being the parent American District Telegraph Co. Similar wire wound with cotton, to run through window frames, was used, however, for telegraphic purposes as early as 1847. Braided office wire was used only to a limited extent until the advent of district telegraph and gold stock "tickers." The introduction of the earlier stock-repeating instruments, with three circuits, and of hundreds of messenger call-boxes created a brisk demand for such wire, but it was not until the telephone business began to develop, after the invention of the instrument in 1876, that the manufacture of insulated wire, both braided and paraffined, or "waterproof," as it was called, received a genuine impetus. Annunciator wire, which had been used for call bell work, proved to be very handy for telephonic interior connections, and this was succeeded by an enormous demand for telephone cords.

Out of this in turn, as well as from the desire for grouping together exterior telephone wires, came the manufacture of telephone cables, consisting, however, largely of iron wire No. 12, instead of the copper wire which is now universal. The troubles from induction led to the production of a tin-foil cable in which each conductor, after having been insulated, was inclosed in a strip of tin foil. Another form of insulated cable consisted of cotton covered wires bunched together to the number of 50 or 100, saturated with paraffin and pulled into a lead pipe. The development of this work led in turn to the gradual abandonment in cities of the aerial cable and its replacement by the insulated underground cable of the present day, to such an extent that while in 1893 the American Bell Telephone Co. reported 201,259 miles of wire on poles and only 90,216 miles of wire underground, in 1900, this same company reported 509,036 miles of wire on poles, a large part of which was in insulated cables, and not less than 489,250 miles of wire underground, the whole of which was in insulated cables. To this should be added 3,404 miles of submarine wire, all of it insulated as well.

In the meantime, the development of the electric lighting industry had brought into demand insulated wire, some of which, used for arc lighting, was known as "underwriters," but was more commonly designated as "undertakers," because of its deadly nature. The insulation of cotton, paraffin, etc., exposed to the air not being sufficient to withstand the destructive effects of the elements or the abrasion of tree limbs, its use resulted in a great many deaths. Shortly after the practical development of arc lighting the incandescent lamp was brought to commercial practicability, and its introduction stimulated to an unprecedented extent the manufacture of interior insulated wire. The flexible conductor was found particularly desirable, especially for pendent and movable lamps, and a high insulation was necessary as a protection against fire, although the voltage of the current was too low to endanger life. Phillips, of London, is said to have been the first to apply gum to such wires, which he did in the form of a very thin rubber tape, slightly vulcanized, and wound spirally around the conductors.

* This article is an extract from United States Census Bulletin No. 245, dealing with "Electrical Apparatus and Supplies." Mr. Martin, who is one of the editors of *The Electrical World and Engineer* (New York), was the expert special agent in this branch of inquiry for the Twelfth census.

† "The Telegraph in America," by James D. Reid. Pp. 129, 130, 243.

In this country Balata gum was probably used at about the same time by Mr. W. W. Marks. These wires, being improved in England and America, very rapidly superseded the earlier flexible conductors made by carrying the wires through strips of the textile webbing used in men's suspenders, the wires thus being kept apart from each other. At this period also the demand for wire of finer sizes increased. It will thus be seen that by 1880 a great stride had been made from the earlier ideas of interior insulation, and also from those which, in regard to exterior work, considered that an iron or steel wire galvanized with a thin coat of zinc was sufficiently insulated. Whereas the earlier metallic insulation was intended to preserve the wire itself, the aim of all the later methods has been in addition to prevent the currents of higher pressure and, larger voltage known to the modern electrical arts from escaping. The protection of the wire itself is a small thing compared with the protection which the more perfect methods of manufacture afford of life and property.

From the very first, Mr. Edison, in introducing his incandescent lamp system two decades ago, insisted that the chief circuits should have their mains underground, and the quantity of copper required for such low voltage work produced a condition necessitating such treatment of them. With this began the practice of laying all electric lighting circuits underground, a practice which is now universal in the larger cities, and also carried out in many of the smaller ones. Mr. Edison did not, however, manufacture insulated conductors in the ordinary sense, but ran copper rods through pipes, surrounding the rods with viscous insulating material and also with rope, in such a manner as to keep the sections of different polarity apart, if the two sides of the system were included in one service conductor. This process, however, has been virtually abandoned in favor of what is known as the "drawing-in" system, enabling lead covered cables to be inserted at manholes along any given street, and drawn through the ducts of the underground conduits.

The cables manufactured for such work for telegraphy and telephony, electric light and power, and electric railway service differ according to the work which they have to perform, but, broadly, consist of copper wires, single or stranded, surrounded by insulated material which is again protected by outer sheathings of lead and iron or steel wire. One notable improvement has been the utilization of paper as a means of insulation; and paper cables are now manufactured in increas-

ing quantities for all classes of work. The results with these cables may be summed up in the following remark:*

Experience has shown that paper thoroughly impregnated with insulating compound, such as the various tars or resins, forms one of the best insulating materials, provided the paper can be kept reasonably dry, as is insured by the use of the lead sheaths. A very large class of distributing cables are now made with paper insulation, and give the highest satisfaction in actual service.

It may be incidentally noted that up to the time of the census report none of the American manufacturers engaged in this industry had produced what are known as deep sea submarine cables, these cables being produced exclusively in England, Germany, and France. A great deal of work, however, answering to this character, for short lengths of sea and for shallower waters, had already been undertaken successfully in this country, and there is no indication from the returns that the heaviest operations of this character could not be safely undertaken. The equipments of the factories, the magnitude of the industry, and the immense range of the product, as disclosed by the census report, are a full justification of those who believe that America can produce her own submarine cable, if not for international work, at least for service in her own waters and among her own dependencies.

STATISTICS OF PRODUCTION.

IN connection with the foregoing report, the census gives the following details of the value of insulated wires and cables manufactured in the United States during the year ended June 30, 1900:

New York.....	\$ 6,119,878	Indiana	\$ 330,000
New Jersey.....	4,701,574	New Hampshire ...	96,793
Rhode Island.....	3,912,584	California.....	65,665
Pennsylvania.....	2,696,155	Ohio.....	15,512
Connecticut.....	1,938,075		
Illinois	722,069	Total.	\$21,292,061
Massachusetts.....	693,456		

The California production of insulated wire referred to in the above table is supposed to relate to weatherproof wire, from the Pacific Electrical Works, at Los Angeles. THE INDIA RUBBER WORLD is advised by the census office that the \$21,292,061 worth of insulated wire and cable work is entirely distinct from the production credited to the India-rubber industry in the census, although it is known that it covers an important amount of rubber work.

* Abbott's "Electric Transmission of Energy," 1900. Pp. 185, 186.

CULTIVATION OF "CASTILLOA ELASTICA" IN JAVA.

DR. SPIRE contributes to a French journal devoted to tropical planting* a comprehensive report on the planting of Mexican rubber (*Castilloa elastica*) in the Dutch East Indies, based on personal observations made in the summer of 1901, from which it appears that considerable interest in this species exists in that region. He mentions, by way of introduction, former reports on the same subject by Dr. P. Van Romburgh, of the botanical garden at Buitenzorg, Java, who has been much interested in watching the development of the *Castilloa* in that colony, and to which credit is given for some of the details presented here. Dr. Spire is unable, however, after a study of Th. F. Koschny's monograph on the *Castilloas*, to determine which species has been planted in Java.

* L'Agriculture pratique des pays chauds, Paris. 1-6 (May-June, 1902), pp. 683-693.

An interesting fact is that all the *Castilloa* plantations in Java have resulted from two trees planted as seedlings in 1883 by a Mr. Hofland, a coffee planter near Buitenzorg. These began to fruit in 1886, and in December of that year 136 plants from seeds yielded by them were placed in the botanic garden at Tjikeumeuh, in an open field, about 10½ feet apart, in two lines forming the letter V. In the third year twelve of these seedlings bore fruit, and in the fourth year the more thrifty of them were 55½ feet high, and had a girth of 41 inches. In 1901 there were 131 of these trees standing, measuring from 50 to 65 feet high, and 31 to 53 inches in circumference, breast high. Their crowns form sufficient shade to prevent the growth of weeds, though the ground is spaded up every year. A second planting was made in the garden in March, 1888, when 56 seedlings were set out 17½ feet apart. A marked difference in the size of these trees is now apparent, those standing near a lane

being much larger and more thrifty than those further from the open space, though Dr. Spire fails to mention the character of the growth, if any, in contact with the smaller trees. These trees range from 32½ to 40 feet in height. The same conditions apply to a third planting, made in 1889.

In May, 1901, Dr. Van Romburgh caused some of the above *Castilloa* trees to be tapped, for the benefit of Dr. Spire. The Malays use for this purpose an implement similar to a butcher's cleaver, with which gashes, 5 to 8 centimeters [=2 to 3¼ inches] long, and about 5 millimeters [= 1/5 inch] deep, are cut in the bark, obliquely, on opposite sides, and converging to a common line, from which the *latex* may be gathered. The cutting extends up the trunk as high as 3 to 4 meters. Two of the trees had been bled before, and the resulting scars were so thick that they interfered with the fresh tapping, but at least, 150 gashes were cut in those two trees that day. The sap flowed freely into a tin pail supported by a hook beneath the lowest cut, and to provide against any loss, large banana leaves were placed at the base of the trunk to catch any sap that might go astray. The *latex* was at times very white, and again of a brownish cast, while some incisions brought out only a blackish humor which exuded very slowly. The flow did not appear to depend upon which side the tree was cut.

The pails of *latex*, together with what was collected on the banana leaves, were taken to the laboratory and kneaded in water, next passed over a fine copper sieve, and then put away to settle. In time the rubber floated, the remaining watery material being drawn off from the bottom from day to day. At the end of the eighth day the cake of rubber was removed and placed under a press to remove any remaining water. Returning to the field on the day following the tapping, the man in charge collected from the wounds on the trunks any shreds of rubber that had resulted from the spontaneous coagulation of *latex*, which, when cleaned, were as valuable as that prepared mechanically.

In general practice the collection of the *latex* is performed wholly by Malays, an overseer assigning to each worker a certain number of trees which he must visit each day. At least ¾ catty [=about 1 pound] of Caoutchouc must be delivered daily, for which the worker is paid 10 cents, gold, without regard to the hours of labor. The men are watched closely to prevent the reckless tapping of the trees and their ultimate destruction. When brought to the factory the *latex* is cleansed by women in running water, then exposed to the air, but in the shade, for three or four days to dry, and finally sacked for shipment. The cost of collecting, cleansing, drying, and sacking, amounts to about 3 florins a picul [= \$1.21 for 132 pounds.] A *Castilloa* tree eight years old should yield an average of 175 grams [= 1/16 pound] of rubber. In 1900, 2849 *Castilloas* yielded 7 piculs [=924 pounds] which sold for 2100 florins [\$844.20]. A neat little income is derived from the sale of seeds, the usual price being 6 francs per kilogram (3000 or 4000 seeds). They are packed in layers of charcoal dust and will keep for twenty days. Many seeds are shipped from Loebang, particularly to Sumatra, where the culture of *Castilloa elastica* has been begun on a large scale, as at Tebbing Teuggi Deli, near the north-western extremity of the island.

To return to the details of the tapping done under Dr. Van Romburgh's supervision, the weight of *latex* obtained from six of the trees tapped on two days was as follows ;

	1st Day.	2d Day.	Total.
First two trees.....	grams 23	130	158
Second two trees.....	220	290	510
Third two trees..	125	205	330
Total.	373	625	998

The result in dry Caoutchouc was 340 grams for the first day's tapping and 600 grams for the second, or a total of 940, equal to slightly over 2 pounds, of a quality then valued at 5 florins per kilogram [=91 cents a pound]. The two trees indicated in the table as giving the largest yield were planted in 1884, and are not elsewhere mentioned in Dr. Spire's article.

Dr. Spire learned from Dr. Van Romburgh that in 1886 there were planted at the botanic station at Tjidjerock 60 *Castilloa* seedlings, supplied by Mr. Hofland, already mentioned. Half were planted in moist and swampy land, and the remainder in a high and dry location. The former did not thrive, and were transplanted. In 1891 they all fruited and 20,000 seeds were gathered. The details of planting are not given, but in 1893 there were 10,000 trees standing as the result. Later plantings were made from seeds from the same source, so that by 1900 there were about 26,000 trees standing, but none had been tapped at last accounts.

In August, 1901, Dr. Spire visited the *Castilloa* plantations at Pamanoeakan. On the premises of Mr. Van Gent, and situated near his coffee factory, was a tract planted to rubber in argillaceous, ferruginous soil, which had been burnt over at one time with a view to erecting buildings there. The plants were about 10 feet apart, but had attained an average height of 2 meters and the crowns were touching each other. In the same vicinity another and larger tract of 50 bouws [= 87½ acres] had been planted for 19 months. At the same date the proprietor had planted *Castilloa* seedlings along paths in his coffee estate, and these had attained an average height of 4 meters. At one time a thousand *Castilloa* trees on his plantation had been attacked, apparently by some fungus growth, and were removed and burned.

Dr. Spire also visited the plantations of Mr. Dinet, at Loebang, where *Ficus elastica* and *Castilloa* were growing mixed, about 18 months from planting. The young rubber, set in ground covered with cocoanut palms, had not thriven well, especially the *Castilloa*, which only in a few cases had grown up to 2 meters. This slow growth was attributed to the hardness of the ground caused by the interlacing roots of the palms, and the owner was attempting the difficult task of eradicating the latter. Mr. Dinet was convinced in favor of growing the two kinds of rubber together. The *Castilloa* grows much more rapidly than the *Ficus*, but does not interfere with it. The altitude here is only a few meters above sea level. Experiments in planting *Castilloa* in the neighborhood of Korwang, at an altitude of 3500 feet, were unsuccessful.

At the state plantation of Gutta-percha, at Tjipetir, 2000 feet above the sea, Dr. Spire noticed some *Castilloas*. One tract, planted 18 months before, showed satisfactory growth, and on another, trees 28 months old measured from 55 to 60 inches high. About 100 eight year old trees were as well developed as those at Tjikeumeuh. In some of the coffee and cinchona plantations in the eastern part of the island a few specimens of *Castilloa* may be found, which, though receiving no attention, have developed well. One, six years old, was 42½ feet high and 32½ inches in girth.

Herr Rudolf Schlechter, of Germany, who visited Sumatra last year, in an account of his trip in *Der Tropenpflanzer* (Berlin), mentions two plantations of *Castilloa*—that of Mr. Runge, Deli Mæda, and one at Haut Tador. In the first named the two year old trees were 12 feet high and at 3 feet from the ground measured 11.8 inches in circumference. At Haut Tador he saw 50,000 *Castilloa* plants in a nursery, awaiting the rainy season, to be planted with *Ficus*. At Boeloe there were 76 *Castilloas*, one planted in 1898 measuring 17.7 inches in circumference. The *latex* was abundant, but charged with resin.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

FROM small beginnings undoubted though not very rapid advance has been made by the rubber carriage tire in popular estimation. It is clear, however, that much of the initial prejudice which barred the way to rapid progress has been overcome, and it is a safe prediction that the

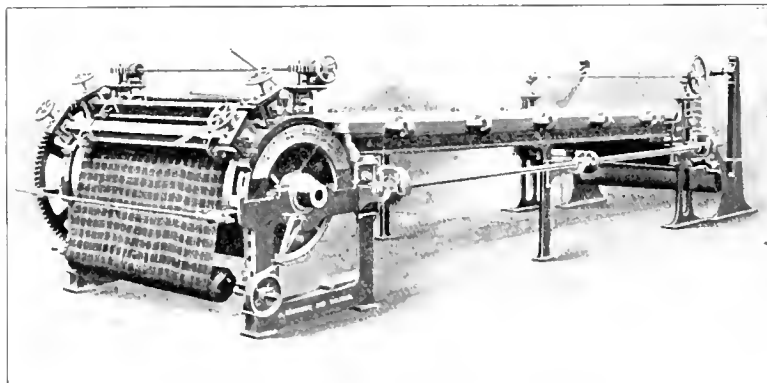
THE SOLID
VEHICLE TIRE
TRADE.

near future will see the business increase at a greater ratio than in previous periods which can be pointed to. It may not be uninteresting to look at one or two features of the trade, more especially such as have undergone somewhat material alteration. To some, but only a small extent, in the past the rubber manufacturer who actually supplied the tire applied the tire to the customers' wheel or supplied the whole wheel with the tire attached. To a greater extent this business has been done by intermediate firms, most of whom were owners of some patent and who have had the tires manufactured for them at some one or other of the large rubber works. Of late, however, a reciprocal feeling that the other party is getting too much out of it seems to have pervaded both the tire company and the rubber manufacturer, and while the former have sought to manufacture their own rubber and reserve a profit to themselves, the rubber manufacturer has begun to ask himself why he should not attach the tire to the wheel and make something out of so doing. This is now being done by one very prominent rubber works, but it is too soon to say whether the anticipations of profit are likely to be fully realized. Certainly the difficulties in the way of progressing in this direction are nothing like so great as he in the path of the middleman who thinks he may as well put down rubber machinery and make his own tires. The business is by no means a simple one, and too much care cannot be taken by those who propose to go into it to see that the hands they engage for the purpose are really competent to carry out the work. There are so many points in connection with the composition of the mixing, and especially with the vulcanization, the disregard of which can only bring trouble and loss; such points are not common property, being limited to those comparatively few firms who have arrived, if not at perfection, at any rate at a satisfactory result by dint of much labor and expense. This may seem to be merely the enunciation of a platitude, but it cannot be too much emphasized. It may be added as a final word that the solid tire seems to have quite superseded the pneumatic for vehicles, the latter being now very rarely seen.

THESE plantations, the property of the Las Cascadas Plantations, Limited, having its office in Manchester, have recently been the scene of Dr. C. O. Weber's travels and scientific observations. From his compendious report to the directors it is clear that he considers the property likely to prove highly

remunerative in the near future, though he recommends the immediate improvement of the transport facilities, both on the estate and in the way of railway connection. The latter is a simple matter, as the line from Colon to Panama runs through the property. Some of the trees, which are the indigenous *Castilloa elastica*, have been planted twelve years and rubber from these is now in England being tried on a manufacturing scale. Dr. Weber's idea was to prepare the rubber on the spot ready for use and this has been done to a small extent; a novel procedure which will be watched with interest. I note that formalin was the antiseptic used for the purpose of destroying albuminous matters which as is well known have when included in the coagulated rubber done a good deal to reduce its market value. I note the following sentence from the report *in extenso* because of the incredulity with which it will doubtless be received by old-fashioned rubber manufacturers: "The rubber prospects at Las Cascadas are excellent; the rubber obtain-

able is of such wonderful quality that it will find a readier and quicker sale, and at higher prices than Pará rubber." Leaving out of account the probability of the manufacturers rushing to buy at a higher price than Pará, it will be quite sufficient to contemplate the upsetting of all existing ideas as to the rubber from a particular tree varying in itself and not by reason of its admixed im-



FRANKENSTEIN AND LYST SPREADING MACHINE.

purities. I am in the present merely giving the words of the report without expressing any opinion of my own; facilities will no doubt be afforded the trade of proving how far the important statement can be substantiated. At any rate the Las Cascadas Co. are to be congratulated on going to the expense of an investigation which is bound to have far-reaching results, and results moreover which will by means be limited to those who have borne the burden of their production.

ALTHOUGH the process of spreading is still mainly carried out in Great Britain on the original familiar type of machine, one or two patented machines have been introduced in recent years, which embody the results of careful thought and experiment in order to obtain economy in labor. The first special machine we shall refer to is the Frankenstein and Lyst machine, which is made by Messrs. Joseph Robinson & Co., engineers, Springfield Ironworks, Salford, Manchester, and which the patentees claim to embody the greatest improvements to date in proofing machinery. The following is a brief description of its capacity and some of its important points:

IMPROVED
SPREADING
MACHINES.

The output per week of 48 hours is 120 pieces, or about seven times the capacity of the ordinary spreader; in other words, it equals seven ordinary machines and a calender. The machine is adapted to all kinds of fabrics, and the work turned

out is, it is claimed, superior to that done in the old type of machine. The machine is attended to by one man, the labor necessary being very slight, as there is no carrying of the pieces backwards and forwards, some four, five, or six times, until the spreading is completed, as is the case with the ordinary machine. The fabric once passed through this machine is completely proofed and also calendered at one operation, and is ready for the vulcanizing process. The contingent risks of damaging the fabrics are thereby minimized, as when spreading in the old way on each operation of coating, there is liability to accident. Absolute uniformity of spreading is also obtained by this machine. The process being completed in one run, it is not necessary to alter the "doctor," which has to be done with each coating of the fabric in the ordinary machine. There are consequently no risks from friction, which are incidental to the high speeded machines known as flyers, a type which for years have been tried unsuccessfully. The space required for the machine is the same as that of the ordinary spreader. The plans required for a good sized factory, viz., six ordinary machines and a calender worked by seven men, would be reduced to one machine attended by one man and a boy and in the space occupied by one ordinary spreading machine. The rubber-covered roller is naturally, on account of its large size, an item of considerable expense, and it has been raised as an objection to this patent machine, that in case of fire the loss incurred would be large. To this it should be said that inquiries made at the works where the machine has been in constant use for three years shows that the probability of loss from this cause has

been exaggerated, no fire having occurred, an immunity which is due a good deal to the fact that the non spreading is not so tight as in the ordinary machine. A large diameter roller is necessitated because of the three "doctors" employed. It may be said, in conclusion, that the machine is in regular use at some of the most important rubber works in Great Britain, and that its potentialities as described are not the outcome of calculation, but the results of actual practice.

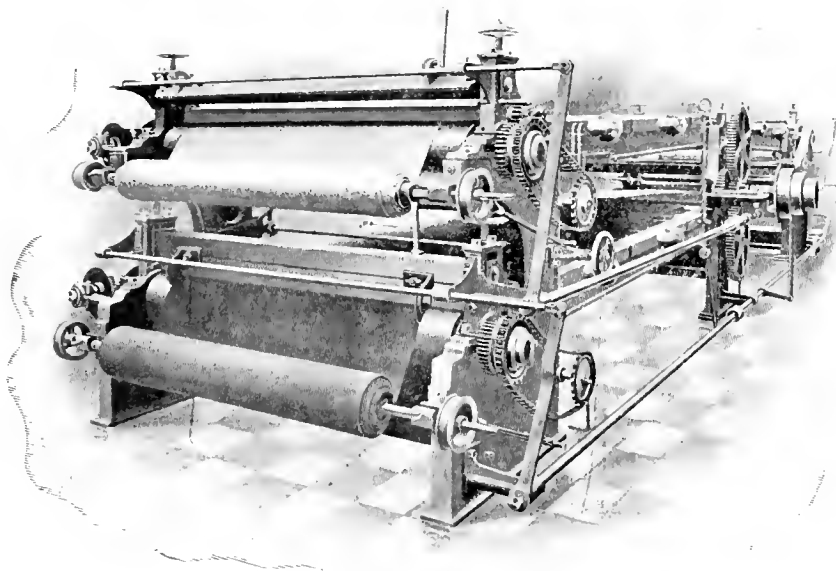
The next machine that demands attention on the present occasion, is the Rowley and Walmsley double deck machine, made by Messrs. Iddon, of Leyland, Lancashire. There are two spreading gages and calender rolls at each end of the machine, two rolls of cloth being coated simultaneously by one man from alternate ends of the machine, until finished. It is claimed that by the dough being thus spread in alternate directions, liability to porosity is removed. The chief saving in labor is in the winding back and handling of the rolls of cloth, as in the ordinary machine, and this saving, together with one or two others, amounts to something considerable in a week's work. Both in this machine and in the last one, the drying tables are considerably longer than in the old type, and this of

course has a good deal to do with the extra cost of both. In the machine under notice, the two drying tables are each 20 feet long, which is found sufficient to expel the naphtha when the cloth is passed at the rate of 8 to 10 yards per minute. The total length of the machine is 27 feet long and 10 feet wide over all, the rollers, of the hard rubber type, being 10 inches in diameter—very much less than in the machine just described. It is understood that, besides having been adopted in English works, a French works has taken it up.

SEEING that somewhat serious allegations have been made from time to time by the lower ranks of the army against the ground sheets served out in South Africa, I took the opportunity the other day of interrogating an officer who has been largely concerned with supply and transport duties in South Africa. His reply to my query as to whether any complaint as to quality had come to his knowledge was in the negative; as far as his sphere of operations had extended he said he had heard nothing in the nature of a complaint as to bad or inefficient waterproofing. This of course does not say anything as to the case in other districts of the wide area of operation, but at any

rate it seems worthy of mention as the complaints that have been made have gained considerable publicity in the press. It is possible that a shortage of new material was experienced at a certain time, as a considerable number of ground sheets fell into the hands on the occasion of a train capture the details of which it hardly seems necessary to revive on the present occasion. With regard to other waterproof goods, the valise bed which forms part of

the officers' equipment on the *veldt* has had a good deal and is highly spoken of. I don't know who are the makers of this article, but it is probably some firm who buy the waterproof double texture from the rubber works and who make up the valise at their own factory. Another article which may be mentioned as having been found of great service by officers is the rubber Wellington riding boot, commonly known out there as "gum boots." These of course do not form part of full dress equipment, but they have been found very useful by the army service corps officers whose varied duties outside the sphere of active belligerency render it advisable to have recourse to the outfit of the sportsman rather than of the soldier. The particular gum boots which I have inspected bore the name of the Liverpool Rubber Co. I don't know whether other firms have shared in the business, but I was informed that a much larger business might be done in them, as the supply had not kept pace with the demand. This fact might be worth the attention of those whom it chiefly concerns. Though not exactly apposite to this paragraph, I may perhaps say that the old custom of serving worn out material to our volunteers in camp has not yet fallen into desuetude. I had an opportunity this



ROWLEY AND WALMSLEY SPREADING MACHINE.

last summer of examining the ground sheets of a brigade camp and found that many of them were too far gone to be of much use from a waterproof point of view. The rubber could be easily rubbed off by the finger at the places where superficial cracking was apparent. It struck me that it was not quite the thing to serve out such equipment to the unsuspecting private, though personally I have no interest or animus in the matter and certainly have no wish to take an active part in any demonstration against the authorities. Perhaps it is only natural, but any knowledge of rubber, its properties, peculiarities, or potentialities, does not seem to exist in the mind of the average officer—such knowledge would appear, except in rare instances, to be limited to those astute officials who regulate contracts for rubber goods at headquarters. So much for matters military. Pursuing the querulous note raised in this paragraph, a few words will now be said on—

WHETHER or not it is due to slackness of trade in general and consequent diminution of profits, there certainly seems a

COMPLAINTS
REGARDING
RUBBER GOODS.

greater tendency at the present time to make complaints as to quality of goods than used to be the case. This remark applies generally, though I am here only concerned with it in its limitation to the rubber trade. No doubt a good many complaints are quite *bona fide*, but some which have recently come to my knowledge certainly cannot come under that category, and it is hard indeed for the manufacturer to incur the odium of the buyer when the fault lies entirely with the latter or his employés. There seems no reason at all to doubt that in certain cases, which I do not feel inclined to specify here, the complaint made was honest enough as far as the firm or its responsible officials were concerned, but there is also no reason to doubt that the fault lay entirely with the workmen of the buyer who, fearful of experiencing direful consequences should they confess to a delinquency, resolved to attribute the blame to the rubber manufacturer. I am as I have indicated only writing in general terms, and therefore it would serve no useful purpose to prolong this paragraph; it seemed advisable, however, to refer to the topic and not at all by way of counselling the guilty to oppose genuine claims, but in order to utter a warning against a regrettable tendency of the day.

At the present time one hears on all side growling about the fines inflicted on motorists for exceeding the legal rate of

MOTOR
NOTES.

speed in public highways, this action being likely, it is asserted, to seriously retard the popularity of the motor and consequently restrict the profits of those who manufacture the machine and its accessories. Undoubtedly this year has seen the motor car make big strides in popular favor, and the question as to the limit of speed allowable, which is being fought out in the London papers, will sooner or later have to engage the attention of the legislature. To judge by the tires in use among members of important automobile clubs, it would seem that the pneumatic is almost universally favored, though as a set back to this statement it may be said that a prominent member of the India-Rubber Manufacturers' Association pins his faith to solid tires. The latter seem to give most satisfaction to the devotees of heavy machines and moderate speed, while those who have attracted the notice of the police prefer a machine as light as possible with pneumatics. But whatever tire is used, there can be no doubt, from the signs of the times, that the rubber motor tire will shortly show a greatly accelerated demand, and this fact cannot but prove welcome now that the cycle demand is practically stationary. The movement, however, is not likely to be so rapid as was the case with the cycle tire, because of the very good reason that those who can afford to

purchase a motor car are not to be found in every grade of society, and the increased use of the lumbering goods vehicle will not affect the rubber manufacturer.

THE financial matters in connection with the reorganization of this company do not seem to be progressing very favorably.

HYDE
IMPERIAL
RUBBER CO.

The call of 5 shillings per share in order to raise £20,000 to pay old creditors 6s. 8d. in the pound and to provide working capital has not yet at the time of writing been sufficiently responded to. The works, however, are still in operation under the guidance of the official receiver.

MR. WADDICAR, whose experience has been gained in Scotland and at the works of the Leyland and Birmingham Cos.,

NEW WORKS.

has started in business in a small way at Newton Moor, near Hyde. Textiles and belting will be chiefly manufactured. With regard to the Clarendon Rubber Co., recently stated in these notes to have been started at Hyde, it should be said that the business carried on is that of merchants in certain classes of rubber goods and not of manufacturers in the strict sense of the term.

THE death of John Hall Gladstone, F. R. S., removes one of those very few scientists who have made the constitution of

DR. J. H. GLADSTONE.

India-rubber a subject for research. The work done by Dr. Gladstone in conjunction with his assistant, Mr. Hibbert, with regard to the molecular constitution of India-rubber, was published in the proceedings of the Chemical Society of London for 1888, though, owing to its somewhat abstruse character and from the fact that it had no technical bearing, it may be taken that it is not at all familiar to the rubber trade. It will, however, always have its value for subsequent investigators, and no doubt the future will bear some practical testimony to its worth. Dr. Gladstone belonged to that small band of chemists who, possessed of ample private means, spend their time in scientific investigations, pecuniary results not coming into their calculations. As a man of wide philanthropic proclivities many societies besides the Chemical—of which he was a member for 54 years—will miss his genial presence, and none the less will this regret be shared by those who, like the writer, can recall conversations in his research laboratory, which was situated in one of the thoroughfares in the vicinity of his house in Pembroke square, in the West end of London.

FROM what I can gather, there does not seem any violent rush on the part of the trade to participate in the advantages

VISCOSE.

of this material as distributed from Glasgow. The very moist state in which it has come into commerce is certainly a bar to its utility, and, judging from remarks which have been made in my hearing, its prospects of ultimate success are anything but roseate unless it can be supplied in a dry condition. A material that loses over 40 per cent. on drying at 100°C. will hardly commend itself to the trade, and for more reasons than one. I don't pretend to any special knowledge of the manufacture myself, but understand that the fatal tendency to absorb moisture has militated greatly against the success of viscose bodies in the textile manufactures.

JAMES THAME (in United States patent No. 707,654) treats crude rubber for the removal of objectionable matter by the submergence of the rubber in small pieces in a hot alkaline solution until the interstices of the rubber are in contact with the solvent. The solvent charged rubber is next submerged in water or other liquid of less specific gravity than the solvent for such time as will allow the solvent to act upon the rubber surfaces, after which the rubber is washed to remove the dissolved matter and any residual free solvent.

THE CHICLE INDUSTRY OF MINDANAO.*

I AM writing to you from the locality of Zamboango, one of the largest towns on the island of Mindanao. This narrative will concern the production of the substance known as Chicle and the manufacture of the same into form for the commercial centers of the country. South American Chicle and the gum resulting from the treating and preparing of the same has had a place in the markets of the world for many years. Gums of this nature from this portion of the world are not so well known. It is only very recently that the country has been opened to the extent of permitting Americans and others to investigate into these natural growths of a commercial product.

The Moros for years have secured the milky, white saps from the gum producing trees of the country by creating wounds in the barks. Oftentimes the blows of knives or pricks with spears form the only means by which crevices and fractures are effected in the rough bark, to the extent of developing a flow or an oozing of the valuable gummy substances. There is a cut made in Fig. 1, showing one of the systems employed by the natives for securing the flowing saps. When the gummy liquids pass from the tree to the tube of bamboo *a*, these liquids are very similar in consistency and appearance to milk.

*From *The Paint, Oil, and Drug Reporter* (New York), September 29, 1902.

The bamboo tube is usually suspended horizontally by means of the crosspieces, *b*.

Shortly after the mass of liquids is exposed to the air, it begins to harden and in a short while can be cut or broken into cakes. The cakes are often shipped to the coast from the interior in this form, or, as is the case in some places, the cakes of gum are reworked into desirable order and forms for transportation to other countries or to centers where there are agents who handle the gums of the country. At present writing there is one agent of a foreign commercial concern here who is buying gums at market values in large quantities for shipment.

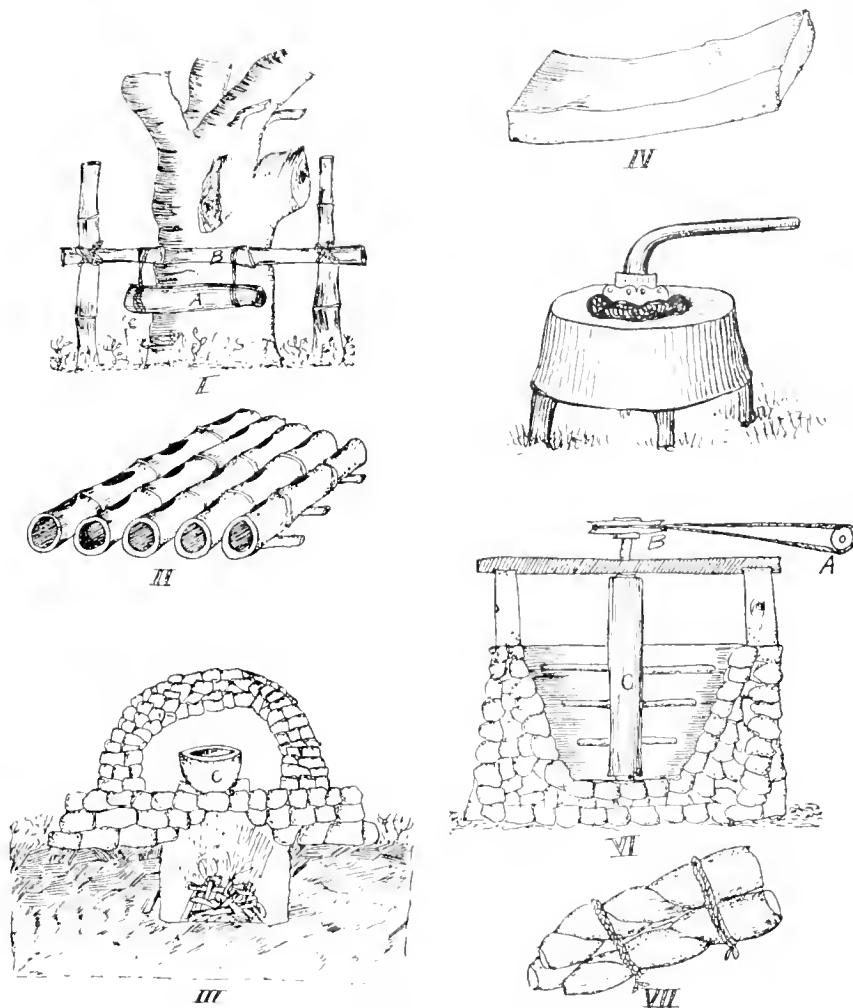
Another mode of securing this white sap is from the unripe fruitage of the tree, which is very similar to the *Sapota* growths of Yucatan.

The natives of Mindanao use some crude devices in the Chicle gum industry. In Fig. 2 is the awkward, yet effective, manner in which the masses of gum like saps can be exposed to the action of the atmosphere without undue wastage due to specks and foreign matters falling in. A series of bamboo tubes are adjusted side by side, as shown, and these are joined with bamboo strips underneath and fastened to crosspieces. The latter are arranged so as to support the whole affair about

three feet from the level of the ground. There are openings cut out from each of the tubes at intervals, as shown, and the air can impregnate, and with the heat and drying influence of the sun the desired results are secured. After the mass begins to form in the tubes it is forced out before it hardens and cooking follows.

Your correspondent sketched two or three different designs of cook ovens of native make, and shows one of the most practical kinds in Fig. 3. This is erected by first excavating the earth to a depth of about four feet, and three feet square for the fireplace, as represented. Then stones are put in position for the forming of the archlike structure immediately over the fire, on which rests the pot of iron containing some of the lumps of Chicle in readiness for dissolving and cooking. This iron vessel is designated *c*. Above this vessel is still another arch of stone, describing a more definite circle. Several native workers are required to keep the fire going and the vessels properly filled. These ovens last indefinitely when properly built, as those I saw were very old indeed. The cooking operation involves several others, such as the sweetening and flavoring. The natives use the common brown sugar product for sweetening purposes. The natives discolor the substance by employing stains squeezed from leaves, herbs, barks, etc. Some of the coloring barks are those from which the dye-substance collectors of the country obtain stains. Reds, yellows, and blues in colored gums are prominent.

After the gummy stuffs are properly sweetened and flavored they are usually rolled out into sheet like order, so that slabs of the substance can be secured, as in Fig. 4.



CHICLE WORKING IN MINDANAO.

After a time the substance is in readiness to shape into loaves, and this is done by the natives in several ways, the best I saw being the rolling of the gum into thin sheets, the weight desired, and then cutting through with knives made for the purpose. A white powder substance is scattered over the surfaces of the gum while this is going on, so that the natives can handle the stock without danger of the fingers adhering to and soiling the matter.

They have a process of kneading, which is used in connection with the finer grades of gums, and this device for accomplishing the work is shown in Fig. 5. It is a crude bit of work, as shown, involving the use of a tree stump or section, which is chipped out in the middle to form the oval depression in which the round-nosed instrument of hard wood can be turned by manual labor. The particles of the Chicle are granulated in this trough, beneath the weight and frictional surface contact of the rounded device.

In Fig. 6 is shown one of the strange devices employed by the Moro Chicle workers for mixing and working the material. This contrivance is made with stone, heavily erected, so as to make the walls firm, and the interior is coated with a cement-like surfacing, which results in the smoothing and rounding off

of the tub. Inside this tub sets the upright post, *c*, in which there are projecting arms of wood, as shown. This affair is revolved by a belt passing from wheel *a* to wheel *b*, on the shaft. Manual or water power is usually employed to give the necessary turning movement to the gearing, *a*. I saw several devices like this, but in most cases they were out of order and unfit for service. The gums here, when finished, lack the flavors employed by American makers. The only flavors utilized are such as can be procured readily.

Costly wintergreen, for example, is not known here. Malt, mint, etc., however, are used. The natives chew the gum to quench thirst. They use it much as they use the tooth staining beetle nut.

As to packing for transportation, you can see that the packages are put up in the form like Fig. 7, as a rule. The substance is rolled up in mats, into various packages, and three or four of these packages are tied up together, as in the view. The writer is inclined to believe that there is money in the Chicle industry of Mindanao for capitalists. The gum materials can be purchased from the natives very cheaply, and at the seaports, where the stocks can be properly packed for export.

Mindanao, Philippines, July 17, 1902.

AMERICAN CAPITAL IN RUBBER EXPLOITATION.

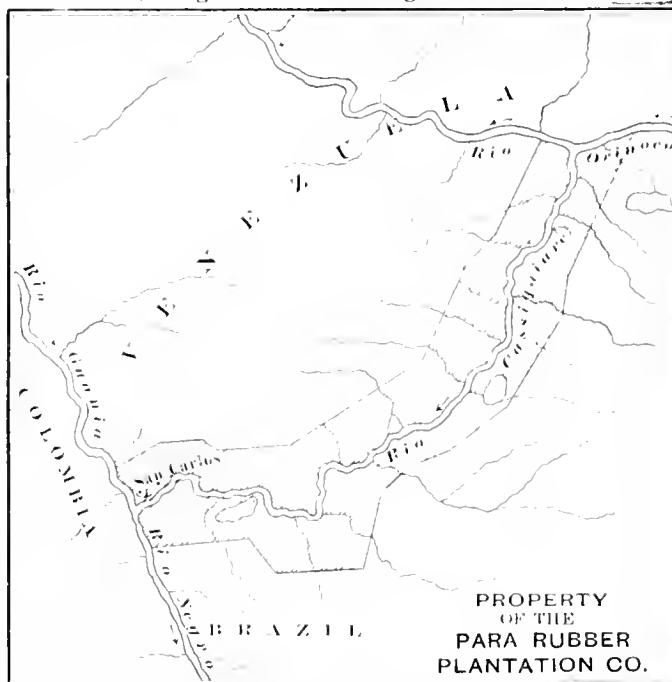
IN addition to the investment of capital in the United States in the forming of rubber plantations in Mexico and Central America, which has been reported in considerable detail in THE INDIA RUBBER WORLD during several years past, there is now evident a new branch of interest in rubber, namely, investments in enterprises for the exploitation of rubber in the tropics. Several such companies are referred to below. The largest of the various enterprises—formed to operate in Venezuela—is now mentioned in these pages for the first time.

PARA RUBBER PLANTATION CO.

THE Pará Rubber Plantation Co. has been formed for the purpose of trading in crude rubber on a large scale in Venezuela, on lines somewhat different from those any large company previously organized. The company begins with the ownership of a tract of land about 8 miles wide, lying on both sides of the Casiquiare river for its whole length of 175 miles, comprising about 1400 square miles of territory, or nearly 1,000,000 acres. The Casiquiare is a stream navigable at all seasons, connecting the Orinoco with the Rio Negro, the latter of which empties into the Amazon a few miles below the city of Manáos. The Negro is navigable up to the Casiquiare, as also is the Orinoco, with the exception of about 30 miles obstructed by cataracts above San Fernando, in Venezuela. For the present the company's property will be reached by way of Manáos, and that city will be the basis of the company's operations. It has been suggested that by means of a narrow gage railway around the falls shipments could be made on the Orinoco more economically than in the other direction, but such railway has not yet been projected. In spite of its name, the new company is to be in no sense a rubber planting enterprise.

Reports made on this territory, which have led to the organization of the company, are that it contains rubber trees in abundance of more than one species of *Hevea*, and that these trees, for the most part, have not been worked. The Casiquiare river does not overflow at any time, and the region is declared to be more healthful, for this and some

other reasons, than much of the country that has been explored for rubber in the Amazon valley. The population is mainly of Indians, who are more docile than in some other regions of Venezuela and in portions of Colombia where rubber workers have been attacked by the natives. For years some rubber from southwestern Venezuela has found its way down the Negro to Manáos, going into the markets as Pará rubber, but without any adequate statistics of the quantity. A certain amount also from the upper Orinoco has gone down that stream, being marketed as "Angostura" fine and coarse.



[THE shaded portion of the map indicates the tract owned by the Pará Rubber Plantation Co. three miles in width on one side of the Casiquiare and five miles on the other. The arrows indicate the direction of the current of the Orinoco, which discharges into the Atlantic, and of the Negro, which joins the Amazon river below the city of Manáos.]

The natives of this region have developed some degree of civilization, cultivating crops for their own use, and in places have engaged in a small way in gathering rubber. There are also some Brazilian settlers who are familiar with working in rubber, and the company purposes inducing more Brazilians, particularly Cearenses experienced in working rubber, to enter its employ. The Casiquiare district is less remote than some of the upper Amazon rubber fields to which the Cearenses go annually, besides which it is adapted for permanent residence, which is not true of districts which are overflowed every year.

It is the idea of the company that, having a rich and unworked rubber district of large extent, with many resident natives who are capable of being trained to work rubber, and with advantages attractive to Brazilian rubber workers, together with a large amount of capital and facilities for maintaining company stores, it will be able during the next crop season to begin operations extensively and to ship considerable rubber at a cost which will insure profits. One advantage that the company expects to have over some that have operated in the upper Amazon districts is that piracy of rubber will be practically impossible. The Pará company will be able to so control the approaches to the Casiquiare that neither goods can be entered nor rubber sent out without the knowledge of the company's agents, and there is no other means of communication with the outside world.

The Pará Rubber Plantation Co. was incorporated August 11, 1902, under the laws of Arizona, with \$5,000,000 capital. The officers are: John Cudahy, president of the Cudahy Packing Co., Chicago, *president*; Allen T. Haight, president Manhattan Terrace Co., New York, *vice president*; Elmer P. Martin, secretary S. K. Martin Lumber Co., Chicago, *treasurer*; F. M. Crawford, No. 52 Broadway, New York, *secretary*. The remaining directors are: J. Wesley Allison, president The Cramp Steel Co., Limited, New York; W. J. Hilands, broker, Chicago; L. B. Adams, Guaranty Savings and Loan Bank, Minneapolis; A. H. Bartle, capitalist, New York; Leslie Stavert, credit man American Linseed Oil Co., Chicago. In addition to the above, the company has an advisory board, consisting of Andre Michelin, of Michelin & Cie, the French rubber manufacturers, and the following members of the crude rubber trade at Antwerp: Robert Osterrieth (of Osterrieth & Co.), Armund Grisar (of Grisar & Marsily); Fuchs de Decker & Co., and L. C. van den Brock. Besides, Kenneth Rose, of San Carlos, Venezuela, who has resided for some years in the Spanish American states, becoming familiar with the condition of rubber trading, has been employed as South American manager for the company, with a seat on the advisory board. The company is offering its shares to the public at \$10, par value.

Venezuela is divided into thirteen states and two territories. The Casiquiare district lies in Amazonas territory, in the extreme southwestern part of the republic and bounded on the west by Colombia and on the south by Brazil. The population of the territory is estimated at about 46,000, of whom 12,000 are civilized Indians.

THE UNITED STATES RUBBER CO. ON THE ACRE.

THE action of the executive committee, favoring the acquirement of an interest by this company in the Acre concession, referred to in the last INDIA RUBBER WORLD, was confirmed at the next regular meeting of the board. There have since been no developments with regard to the matter, though correspondence has been in progress between the officials of the United States Rubber Co. and the *cessionnaires* under the Bolivian grant, Mr. Whitridge and Sir Martin Conway, who are now in Europe. From all that can be learned of the South American situation, Bolivia has no intention of yielding to the

Brazilian pretensions in the direction of annulling the concession granted to the American syndicate. Meanwhile, the Acre district has been the resort of all kind of adventurers, and it is not likely that conditions there will be favorable to business for some time to come.

AMERICAN CRUDE RUBBER CO.

THIS company was incorporated under New Jersey laws on August 29, the certificate filed with the secretary of state being signed by Owen E. Abraham and John W. McConnochie, of No. 52 Broadway, New York, and Kenneth McLaren, of New Jersey. The registered office of the company is No. 15 Exchange place, Jersey City, N. J. The two New York incorporators are connected with the law offices of Abner McKinley, a brother of the late president of the United States, who is understood to be interested in the enterprise, but thus far no information has been furnished regarding the plans of the company.

RUBBER FROM MOLLENDU.

RUBBER from this port on the Pacific has begun to reach the New York market direct, being the product of Bolivia, and particularly of certain concessions worked by capital from the United States. There are now two such companies working on a considerable scale—the Chicago-Bolivian Rubber Co., with its headquarters in Boston, and the Andes Rubber Co., with headquarters in Baltimore. During the past month rubber has been received at New York, shipped by each of the two companies named.

IN THE FRENCH CONGO.

THE Congo and Sangha Development Co., incorporated under the laws of New Jersey, and mentioned in THE INDIA RUBBER WORLD of May 1, 1902, as planning to acquire and work one of the rubber concessions in the French Congo, have postponed the beginning of work with a view to largely expanding the scope of the company. The modifications involved requiring the consideration of the French government, all the papers in the case have been submitted to the ministry of the colonies and now await its action.

IN ECUADOR.

CARL O. RETSLOFF, who is to be resident manager at Esmeraldas of the Ecuador Rubber and Development Co., lately organized at Winnebago City, Minnesota, and E. T. Crowther, assistant manager, left for Ecuador early in October, prepared to begin their work of exploiting rubber.

A TRANSACTION IN FIRE HOSE.

THE city of Springfield, Ohio, has been buying some fire hose. At a special meeting of the police and fire board, attended by the mayor, three hours were devoted to a consideration of the subject. First, bids were open from twelve rubber hose manufacturers, seven of whom were represented at the meeting by salesmen. After the reading of the bids, the salesmen retired from the room, being recalled singly to talk for ten minutes each on the merits of their hose. The subject was then deferred until the next regular meeting of the board, called at an earlier hour than usual, in order that the hose business might be concluded in one evening. The result was the purchase of 4000 feet of hose at 75 cents per foot, or \$3000. The members of the Springfield board are to be commended for devoting their time so liberally to the public service. But the cost to the rubber trade, as a whole, of having seven salaried men on the scene must be deducted from the profits of the industry as a whole, from supplying this \$3000 worth of hose, on which basis doubtless a good deal of rubber business is done without a very substantial profit.

CORNER STONE LAYING AT A RUBBER FACTORY.

THE corner stone of the new factory of the Vulcanized Rubber Co., at Morrisville, Pennsylvania, which is to supersede the plant now occupied by the company was laid with appropriate ceremonies on the afternoon of October 18, in the presence of a number of invited guests, who afterwards were entertained at a banquet by the officers of the company. At the hour named for the ceremonies, 1 o'clock, a cornet solo brought the guests and the employés of the factory together in front of a stand handsomely draped with American flags. On the stand were Messrs. Myer Dittenhoefer, president of the company; Theodore E. Studley, secretary and treasurer; George Pellinger, vice president and general manager; S. H. Dodd, a director; F. B. Gilkeson, a well known attorney of Bristol, Pennsylvania, and counsel for the company; and Henry C. Pearson, editor of THE INDIA RUBBER WORLD. After the "Star Spangled Banner" had been played, President Dittenhoefer arose and said:

We are assembled here to-day to lay the corner stone of a new home of industry, and thank you for your presence, which adds grace and dignity to the occasion.

It is a little more than fifty years ago that Nelson Goodyear discovered the process of making Hard Rubber. Since that time its uses have broadened and extended, and to-day the world could hardly get along without it. The wonderful progress made in telegraphy, telephoning, and electricity, is owing greatly to the use of Hard Rubber. The arts and sciences are tributary to it.

Having settled some years ago in the borough of Morrisville, this border town of the great Keystone state, and finding that the factory occupied by us a short distance from this spot had become inadequate, the directors of the Vulcanized Rubber Co. decided upon an enlargement of the plant, and to-day, with your assistance, we lay the corner stone of this new building, which when completed will be a model plant, and will have room enough to employ a larger number of people than could be housed in the old factory. May it prove of benefit to all concerned—to the borough of Morrisville, to the people employed, and to the owners.

May the good feeling which in the past has always existed between employers and employed, continue, as in my estimation the success of any business is greatly based on a mutual feeling of harmony among those engaged in it. And now, as I have been taught to always invoke the aid of Deity before entering on any great or important undertaking, I do so now, imploring and invoking the Great Architect of the Universe to bless our work and so guide us that it may continue to be a benefit to all concerned.

Stepping down to the corner stone, Mr. Dittenhoefer said:

In this box we place a copy of the Holy Bible, a gift of Squire Wright; a copy of THE INDIA RUBBER WORLD, whose Editor is with us; copies of the New York *Herald*, the Trenton *True American*, and the Trenton *State Gazette*; an illustrated catalogue of the Vulcanized Rubber Co.'s products; a beautiful engrossed parchment containing the names of the officers and all the people employed by our company—the work of Mr. Van Buskirk, one of our old and faithful foremen; a hard rubber tablet on which is engraved the names of the officers; and samples of various products of our handicraft.

Taking this trowel, the main instrument of the builder's craft, I spread the cement which will unite this stone inseparably to our building. May this be a symbol that the Cement of Harmony will always be with us and unite us for the common weal.

Returning to the stand, President Dittenhoefer introduced the Hon. Mr. Gilkeson, who spoke for ten or fifteen minutes very eloquently. At the close of his speech the guests and officers of the company, the managers and foremen of the

factory, and the borough officers of Morrisville, entered carriages and were driven to Trenton, where, at Hildebrecht's café, a luncheon was served, the menu being as follows:

MENU		
Table Celery	Mill Pond Cocktail	Salted Nuts
Olives	Puree of Tomatoes aux Croutons	Pimolas
	Sweetbread Cutlet en Croustade	
	Petit Pois	
	<i>Punch au Kirck</i>	
	Egyptian Cigarettes	
	Sirloin of Beef, Braisse au Celeri	
	Browned Sweet Potatoes	White Seal
	Neapolitan Ice Cream	
	Assorted Cakes	
	Fromage de Brie	
	Bents Crackers	
Café Noir		Mi Favoritias

The banquet room was tastefully decorated with candelabra, palms, and cut flowers. Covers were laid for fifty. President Dittenhoefer presided gracefully as toastmaster, his introduction in every case being most happy.

Superintendent A. M. Sawyer was the first to be introduced. In a short speech he referred to the harmony which existed between the officials of the company and their employés. He proposed the toast "The Man Behind the Guns of the Factory," referring to Vice President George Pellinger, which toast was drunk amid cheers.

Mr. M. Houman, of Paterson, the architect who drew the plans for the buildings, responded to the toast "Our Assembled Guests." He referred to the improved factory conditions that now prevail, said the employé must be regarded as more than a mere machine, and spoke of the consideration which the officials of the Vulcanized company had always shown to the rank and file of its employés.

Mr. Theodore E. Studley, of New York, secretary and treasurer of the company, proposed the toast "All Honor to the Men Who Made the Success of the Company possible." Briefly he sketched the early difficulties of the company and paid warm tributes to President Dittenhoefer and Vice President Pellinger. His remarks were punctuated with much wit.

Mr. Henry C. Pearson, editor of THE INDIA RUBBER WORLD, by means of a humorous story, pointed out that the company had been born to new prosperity. He proposed the toast "The Young Men Who Comprise the Vulcanized Rubber Co."

Vice President Pellinger, "the Man from Akron," was called on and responded briefly.

Mr. C. H. Gantz, president of the Morrisville council, responded to the toast, "The Borough of Morrisville." He referred to the laying of the corner stone as the opening of the door of Morrisville commercially, and said the new factory would be a monument to the borough's progress.

Mr. Leo Lichtenstein, a salesman for the company, made a brief speech and Councilman Charles Taylor, of Morrisville, and W. Humphreys, agent there for the Pennsylvania Railroad Co., also spoke.

The favors were unique. They consisted of beautiful miniature boxes in exact imitation of guitars, mandolins, and banjos; also imitation cigars, each of which when opened revealed a tiny doll and the inscription "Now Will You be Good?"



SECRETARY STUDLEY.



PRESIDENT DITTENHOEFER.



VICE-PRESIDENT PELLINGER.

OFFICIALS OF THE VULCANIZED RUBBER CO.

The banquet closed with mutual congratulations upon the great success of the event. There were present, in addition to all the gentlemen named on the preceding page:

The burgess of Morrisville, Charles Sine, and Councilmen C. H. Gantz, R. V. Hutchinson, Margerum, Case, and Palmer; Bernard Long, Wilkesbarre, Pa.; Jacob Schmidt and Jacob Schmidt, Jr., contractors for the buildings, Wilkesbarre, Pa.; L. L. Meredith, engineer, Morrisville, Pa.; Edmund Wright, C. C. Humphreys, and William G. Howell, Morrisville; S. S. Parkinson and Councilman Charles F. Goldenbaum, of Trenton; Charles E. Worthington, Boston; George Pelling, Jr., L. F. Dittenhoefer, James Moeser, C. S. Taylor, H. Swatz, and Marion Ullman, New York; J. Ruggaber, superintendent comb department; Oscar Beck, superintendent stock department; Fred Taylor, head bookkeeper; and the following foremen: George Jenkins, William Carmen, Joseph Tinery, George Van Buskirk, Edward Sutterly, Joseph Lester, Benjamin Peze, Charles Parsons, C. H. Young, Edward Neuman, Patrick Doherty, C. Nolan, Fred Willand.

* * *

At the conclusion of the exercises at the building, the employees of the company repaired to Mershon's Hall, Morrisville, where a banquet was served. Covers were laid for about 300. The committee in charge consisted of Charles E. Taylor, chairman; L. Z. McGannon, Joseph Pelling, Edward Swope, Mahlon T. Moon, Elmer Jenkins, William Stradling, Thomas Nevins, Aaron Van Buskirk, Fred Cox, William Meyers and Michael Giblin. Dancing followed the lunch and the festivities continued until late in the afternoon. In the morning teams from the polishing rooms and the turners' department met at baseball, the latter winning by a score of 11 to 5.

* * *

THE new building of the Vulcanized Rubber Co. is in three sections, all of brick, two stories high, of modern mill construction. The structure nearest the railroad line, on Smith street, is 40 × 210 feet, with an extension 125 feet long. The central building is 40 × 277 feet, and the one on the north 40 × 263 feet. The structures are well under way, one being up to the second story line, and the others up to the window sills. The new building and the equipment will cost about \$200,000. The engines are of the Harris-Corliss type, and the drive will be a new feature in rubber mill work, being a chain drive on the same principle as the chain used on a bicycle.

SOME WANTS OF THE RUBBER TRADE.

[265] FROM a firm importing crude rubber comes a request for the name and address of some manufacturer of machines for pressing rubber.

[266] From Chicago: "Please inform us who builds rubber mixers; also, where to buy washed Pará rubber."

[267] From a Southern city: "We should like to learn of a suitable material for use in waterproofing cotton duck, with a view to the manufacture of tarpaulins."

[268] From the West: "We have an inquiry for prices on rubber return balls. Kindly inform us who makes them."

[269] From New Jersey: "Please give me the address of a dealer in reclaimed white rubber."

[270] From New England: "We wish you would kindly advise us where we can purchase two-ounce bottles for rubber cement."

[271] From Philadelphia: "Please refer us to some party making a rubber coated cork for ammonia bottles."

[273] "Will you kindly mention the address of the manufacturers of Smith's bias cutting machine, described in THE INDIA RUBBER WORLD for September?"

[274] From England: "Where can I buy thin rubber sheet, such as is used in dress shields?"

[275] From Japan: "Can you tell me how to make varnish, polish, or gloss, for India-rubber goods, or where to procure same, similar to enclosed rubber sheet?"—[The sample sent is of ordinary red rubber, which owes its gloss to the fact that it was cured on a perfectly smooth surface, potashed, and then wiped over with glycerine.]

[276] From England: "We shall esteem it a great favor if you will kindly inform us of any firm or firms in America which you know to make a specialty of the manufacture and engraving of steel molds for golf balls."

[277] From Canada: "In the British foreign office annual series, No. 2876, under the head of rubber in French Guinea, it is stated that 'the only rubber allowed to be exported would be that prepared by the Foulah method, in red filaments, which was found to be the only one which permitted the detection of resinous adulteration.' Can you tell us what the Foulah method is?"

ALLAN MAGOWAN, RUBBER SUPERINTENDENT.

ONE of the oldest superintendents and owners in the rubber business to-day is Allan Magowan, of Trenton, New Jersey, who was born in the north of Ireland, of Scotch-English stock, and came to this country when but a child. His first experience in rubber work dates back to 1850, when he was employed in the factory of the New England Car Spring Co., at Thirty-third street and Third avenue, New York. He worked there for four years and then took a position in Trenton in a small factory which had formerly been owned by the pioneer rubber manufacturer of Trenton—Jonathan H. Green, "the reformed gambler."* Green having failed to make his rubber venture profitable, the factory was purchased by Garret Schenck and Hiram P. Dunbar, who started in the manufacture of mechanical rubber goods, the late veteran superintendent, Henry Joslin, being in charge. Mr. Magowan was then an active and capable young man and a great admirer of Abraham Lincoln, and a prominent member of one of the *ante-bellum* clubs known as the "Wideawakes."

In 1859 Mr. Magowan went to Richmond, Virginia, to work for John J. Fields, the founder of the New Jersey Car Spring and Rubber Co., who had sent machinery there and set it up in the old Tredegar Iron Works for the manufacture of patent rubber carsprings. Jacob D. Joslin was superintendent of this Richmond factory. Mr. Magowan worked until the outbreak of the civil war put a stop to the supply of rubber and other materials, and Mr. Fields and Mr. Joslin went north to avoid being drafted into the Confederate army. Mr. Magowan, however, having an invalid wife, was not able to leave and was impressed by the Confederate government to make insulated wire for torpedoes and field work. The rubber covering was made largely of old carsprings ground fine, and boiled up in spirits of turpentine. A great many army blankets were also made for the government of this same reclaimed rubber. As Mr. Magowan had a couple of braiding machines he was able to make several miles of insulated wire, which was used in signaling during battles. Dr. Morris, who had charge of the Southern telegraph, also induced Mr. Magowan to build a machine for drawing wire, by giving him a competent machinist, and with a force of ten slaves he made a great deal of it, the long pieces being used for telegraph work and short pieces for rivets.

In spite of the fact that Mr. Magowan was employed by the Confederate government he had never been asked to take an oath of allegiance to it, nor had he been questioned as to his sympathies. As he was at heart a strong Union man and working because he was obliged to, he could not forbear to strike one blow for the Union, and he therefore punctured with a sharp nail every piece of torpedo fuse that passed through his hands. As this fuse was covered with Gutta-percha the insulation was thus ruined and the torpedoes would never have exploded had the electric current been turned through the wire. After the battle of Antietam Mr. Magowan with his invalid wife was able to get a letter to the secretary

of war, who gave him a permit to go north under a flag of truce during an exchange of prisoners. After reaching Philadelphia his wife died and he took her to Trenton for burial. He then went into a factory there and was employed at making swords.

In 1865 Bramble & Sinclair had a small factory in Paterson, New Jersey, of which Henry Josselyn was the superintendent, where they made mechanical rubber goods. Here Mr. Magowan worked for a short time, when Mr. J. J. Fields having moved his machinery from Richmond, Virginia, to Jersey City, he accepted a position with him. In 1867 he accepted a position as superintendent of the Boston Car Spring Co., owned by George and Hiram P. Dunbar, the factory being at Roxbury, Mass. The lines of goods manufactured were carsprings and specialties in mechanical rubber goods. Two years later he accepted the position of superintendent of the Whitehead Brothers Rubber Co. in Trenton, remaining with them until 1880, when the Trenton Rubber Co. was incorporated, Frank A. Magowan, Spencer M. Alpaugh, Gardner Forman, and Allen Magowan being equal owners. A few years later the same company started the Empire Rubber Co. for the manufacture of rubber carriage cloth. They afterwards bought the factory of the Star Rubber Co. and moved the machinery of the Empire works there. Later the same four purchased the plant of the Hamilton Rubber Co. and started there the Eastern Rubber Co.



ALLAN MAGOWAN

This was the high tide of Allan Magowan's prosperity. Had he sold his interests at this time he would probably have realized half a million dollars. The financial troubles of his son, Frank A. Magowan, however, and the wish to assist him as much as possible, induced Mr. Magowan to sacrifice all of his holdings together with \$50,000 worth of life insurance. Again a poor man, Mr. Magowan with two of his sons, Joseph H. Magowan and John T. Magowan, built a small plant and incorporated the Modern Rubber Manufacturing Co., the business being the manufacture of rubber matting and small mold work. This factory was burned September

24, 1902, and is now being rapidly rebuilt.

Personally, Mr. Magowan is an extremely quiet, modest, old-fashioned gentleman, of quiet tastes and unimpeachable integrity. He has the respect of all who know him and the cordial hope that the reconstructed Modern Rubber company will be all that he may wish it to be.

ANOTHER MISTAKE CORRECTED.

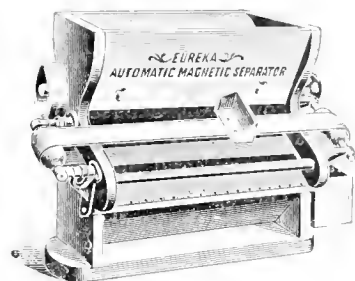
THE able Portland (Maine) *Press* says, in its issue of October 10: "It has long been the impression that the raw rubber of Pará was superior in quality to all kinds of African rubber and it has been asserted that this superiority was due to the finer quality of the milk of the *Hevea* from which most of the Brazilian rubber is extracted. The *Landolphia* is the vine from which all the rubber obtained in the Congo Free State is taken. It is now certain, however, that this supposition is erroneous." At the same rate of progress in mastering the subject of rubber and its sources, the editor of the *Press* may be able to announce next year that the best of all rubber may be obtained from the common house plant known as a "rubber tree."

* Green, after his reform, wrote a book, "An Exposure of the Arts and Miseries of Gambling," which was published in Cincinnati in 1843, as a warning to others.

NEW GOODS AND SPECIALTIES IN RUBBER.

"EUREKA" AUTOMATIC MAGNETIC SEPARATOR.

ONE of the first difficulties the pioneer manufacturers of reclaimed rubber experienced was that of removing iron from the reclaimed stock. This iron appeared in the form of nails, metal shanks, rivets, etc. After the waste stock has been cracked and ground as finely as necessary, a careful examination of it will discover many particles of this

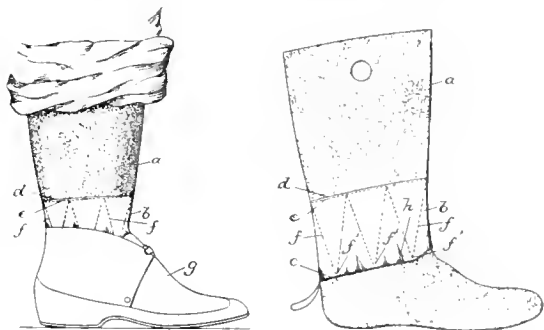


metal. Indeed, often there are large pieces which remain in the stock and show on the surface of the calendared sheet, many times destroying hundreds of dollars' worth of surface goods, and when used for wire covering destroying the insulating qualities of the rubber. Perhaps the best a-

rrangement for removing iron or steel while the reclaimed rubber is in process of manufacture, is the machine shown in the accompanying illustration. This machine is very simple, consisting of a hopper, into which the ground rubber is fed and through which it flows over a magnetized surface to which the iron at once adheres, while the rubber, not being affected, goes on down to a bin below. Across the surface of this magnetic field runs a leather belt wiper which removes the adhering particles of metal, carrying them away to a waste box on the side. The machine is wholly automatic and will last almost indefinitely. It requires very little care, cleans itself, and is not costly. The magnetic tract is charged by magnets made specially for this use, each one tested to lift 20 to 25 pounds. The poles are covered with special iron, giving the strongest charged magnetic surface possible to obtain. The machines are made in thirteen sizes, the prices running from \$55 to \$400 each. These magnetic separators are in use in many of the largest rubber reclaiming factories in the United States and abroad. [The S. Howes Co., Silver Creek, New York.]

IMPROVEMENT IN FELT BOOTS

CHARLES E. SEIBERT, of Baltimore, Maryland, has obtained a patent for a leather band to surround the ankle of the felt boot worn inside an arctic or a rubber boot, to overcome the drawback to this style of foot covering which sometimes arises



from the liability of the felt to become damp from perspiration or otherwise, and thus get spongy and break, or quickly wear out at the ankle, where it is continually flexed by the movement of walking. There is also a tendency of the felt to abrade the upper edge of the arctic. The cut on the right shows a

felt boot made according to this patent, and the cut on the left shows the same upon the foot and inside an arctic. The ankle band *b*, of leather, extends entirely around the boot in the position shown. It is sewn to the felt by the rows of stitching *e* and *f*, but not at the lower edge, which is free to "buckle," as shown by the shaded portion *h*.

NEW "SERVICE" HEEL.

A FEATURE which is designed to add wearing quality to the rubber shoe at a point which it gets the hardest service is the

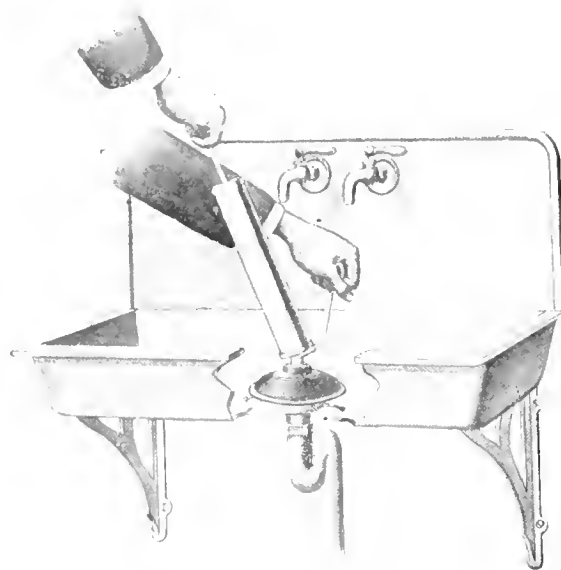


new heel, added only to certain of the first quality goods manufactured by the Boston Rubber Shoe Co. This new feature is termed the "service heel" and is really an extra

quality heel made with a rolled edge and brought up on the rear as a further protection. This is added to the regular "Storm Slipper," the "Norword" and the "Medium Over" styles.

THE "LITTLE GIANT" HOUSEHOLD PUMP.

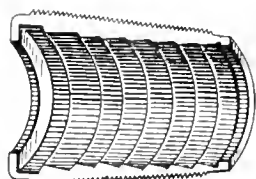
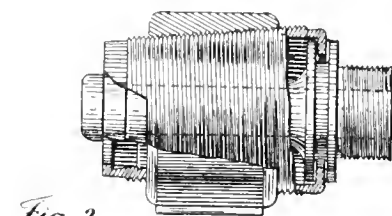
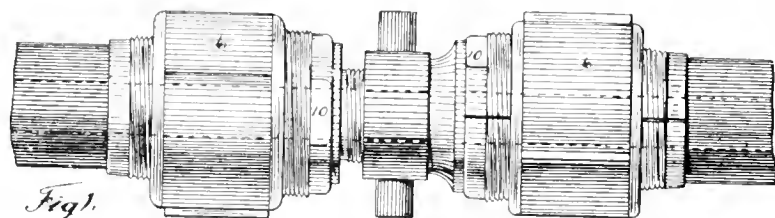
THE pump illustrated here with scarcely needs special description, as the cuts tell the whole story. It may be well, however, to refer to some of its advantages. The cup weighs 5 ounces, is made of rubber, with a metal shield which extends



to within one half inch of the bottom of the cup, thus allowing the latter to adjust itself to the opening. It is both a force pump and a lift pump, and has great power either way. It has an extra adjustable rubber washer made to fit pipes from $\frac{3}{4}$ inches to 2 inches. As the barrel of the pump is 7 inches long it gives a plunger stroke of $6\frac{1}{2}$ inches. The attachments are easily and quickly put on or taken off. The weight of the pump is 16 ounces. It will remove the most obstinate obstruction, whether it be one or 20 feet from the waste outlet. [The Mulconroy Co., Incorporated, Philadelphia, Pennsylvania, sole agents for the United States.]

BOWERS'S HOSE COUPLING RETAINER.

It is well known that wherever steam hose is used under heavy pressure, the ordinary expanded ring coupling is not sufficient to keep it from blowing out. Of course it is perfectly possible to secure the hose and the coupling together by a

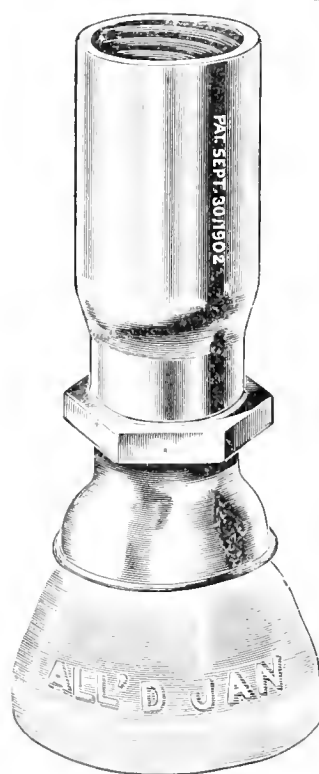


variety of cumbersome devices, but a neat compact fastening device has not, to the writer's knowledge, been produced prior to the invention of the Bowers retainer. In the illustrations shown in connection with this description, Fig. 2 gives a detailed view of one section of the coupling, while Fig. 3 shows a perspective view of the retaining thimble partly broken away. In other words, the coupling is a combination of a grooved collar with a tubular extension that fits into the end of the hose and a tapering outside sectional thimble, screw threaded, which surrounds the end of the hose, and is fitted over the tubular extension of the coupling. The outer ends of the thimble sections are flanged inwardly so as to engage with the grooves of the coupling collar with a tightening nut which screws on to

the thimble. The inventor and patentee of this coupling is W. F. Bowers, president of the Bowers Rubber Co., San Francisco, California.

ANKLE JOINT CRUTCH TIPS.

ONE great trouble with the ordinary crutch tip has been that the motion of the crutch twisted the rubber, causing it to wear out quickly, and further than this, most of the bearing came on one side of the base of the tip, rather than on the whole of it. The Ankle Joint Tip is designed to overcome this, and does so most effectively. This is accomplished by the use of a ball and socket joint placed just above the rubber. The use of this joint makes the walking on crutches much easier and safer and the tip has already had a large sale. It is furnished in two styles, hollow and solid. These goods are protected by a number of patents. [Elastic Tip Co., No. 370 Atlantic avenue, Boston, Massachusetts.]



NEW TRADE PUBLICATIONS.

THE B. F. GOODRICH CO. (Akron Rubber Works, Akron, Ohio) issue a Catalogue of Goodrich Solid Tires and Goodrich Side Wire Tires, describing the tires and the method of applying them to vehicle wheels. It contains illustrations of tire sections which are made in width from $\frac{3}{4}$ inch to 4 inches, the solid tires being of the two wire type for sizes of 3 inches and three wires for larger sizes. The catalogue also illustrates in detail the mechanical appliances for putting on these two types of tires and also sectional views of the standard steel channels described in THE INDIA RUBBER WORLD for September 1, 1892 (page 377). The catalogue also includes prices. [$5\frac{3}{4}'' \times 8\frac{3}{8}''$, 40 pages.]

TYER RUBBER CO. (Andover, Massachusetts) issue a new catalogue of "Tyrian Rubber Goods," including druggists' sundries and stationers' and miscellaneous goods, with prices. The catalogue is liberally illustrated with photographic views of the leading articles listed, the pictures generally being colored to indicate the actual appearance of the rubber. There are also several half tone views of Tyer factory interiors. This is one of the largest druggists' sundries catalogues issued, and a comparison of it with the first catalogue ever issued by the Tyer company strikingly illustrates the development made by this important establishment. [$10'' \times 7\frac{7}{8}''$, 112 pages.]

THE HOOD RUBBER CO. recently brought out an exceedingly striking hanger, which was distributed to their customers throughout the country, and has attracted much attention. It is printed in ten colors and shows a huge ocean steamer in the background, and the tender of a pilot boat in the foreground. An inquiring soul aboard the steamer asks the lusty pilot where he secured his rubber boots, and the latter, calling back through a megaphone, gives the single word "HOOD."

FABRIC FIRE HOSE CO. (New York), issue a pamphlet with the title "When Buying Fire Hose," which describes their method of treating the cotton fabrics used with a mixture of melted wax and gum, and also their patent process of "balance weaving," after which are quotations from commendation letters from fire chiefs in many cities, and a list of towns and cities in which their fire hose has been in use from five to twenty years. [$7'' \times 6''$, 32 pages.]

INDIANA RUBBER AND INSULATED WIRE CO. (Jonesboro, Indiana), issue a new catalogue of insulated wires and cables, manufactured under their "Paranite" and "Peerless" brands. They make low tension and high tension wires, telegraph and telephone wires and cables, submarine cables, etc. The catalogue ends with several pages of "Useful Tables." [$4\frac{3}{4}'' \times 7\frac{1}{4}''$, 48 pages.]

VOUGHT & WILLIAMS (Nos. 363-367 Greenwich street, New York) who have been mentioned before in THE INDIA RUBBER WORLD as extensive dealers in rubber horseshoe pads, present in their Catalogue of Horse Shoers' and Blacksmiths' Supplies no less than 44 illustrations of different styles and types of horseshoe pads. These do not cover their whole stock in this line, however, and they advise THE INDIA RUBBER WORLD that since the issue of their catalogue they have had submitted to them some six or eight new styles of pads. Another line in connection with rubber which the firm have taken on, in recent years, is solid rubber vehicle tires, of which they keep in stock a number of sizes, together with tools for applying rubber tires, and an assortment of steel channels for such tires. [$5\frac{1}{2}'' \times 8''$, 381 pages.]

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED SEPTEMBER 2, 1902.

NO. 708,003. Process of producing a composition of matter to be used as a substitute for rubber. Otto A. Bailer, Philadelphia, Pennsylvania.

708,033. Detachable cushion heel. Walter S. Estey, Webster, Massachusetts.

708,225. Elastic tire and process of manufacturing same. Frank E. Hall, Quincy, Massachusetts.

708,317. Shield for personal wear. Lillie H. Catzen, Baltimore, Maryland.

708,482. Pneumatic tire. Thomas B. Jeffery, Kenosha, Wisconsin.

708,483. Playing ball. Eleazer Kempshall, Boston, Massachusetts.

708,484. Playing ball. Eleazer Kempshall, Boston, Massachusetts.

ISSUED SEPTEMBER 9, 1902.

708,547. Overshoe. Henry A. Hamilton and Frank H. Crawford, Emlenton, Pennsylvania.

708,607. Horseshoe pad. Frank W. Wood and Mercer R. MacPherson, Chelsea, Massachusetts.

708,823. Process of preparing and treating rubber coated materials. Johann Minder, Piesteritz, Germany, assignor to Oxylin Werke Actiengesellschaft Piesteritz.

708,864. Resilient tire for vehicle wheels. William E. Carmont, Kingston-upon-Thames, England.

708,952. Pneumatic tire and process of manufacturing same. John W. Blodgett, Chicago, Illinois, assignor, by direct and mesne assignments, to N. Tire Co., Chicago.

708,967. Machine for smoothing rubber vehicle tires. Stephen S. Miller and Lee E. Clough, Akron, Ohio.

ISSUED SEPTEMBER 16, 1902.

708,983. Overshoe for horses. John Bartlett, Brooklyn, New York.

709,021. Bicycle tire. Henry Du Bois Lefferts, New Brunswick, New Jersey.

709,272. Stamp affixer. Henry D. Long and James Jackson, Philadelphia, Pennsylvania.

709,280. Pneumatic tire. Irvin Tennant, Springfield, Ohio.

709,324. Puncture proof inflatable wheel. Alexander Honrath, Kiowa, Indian Territory.

709,411. Playing ball. Eleazer Kempshall, Boston, Massachusetts.

709,412. Playing ball. Eleazer Kempshall, Boston, Massachusetts.

ISSUED SEPTEMBER 23, 1902.

709,483. Tire and fastener for vehicle wheels. Jacques C. Haines, Chicago, Illinois, assignor of two thirds to William E. Huber and Chester Haines, Chicago.

ISSUED SEPTEMBER 30, 1902.

709,930. Pneumatic saddle pad. Henry R. Rensman, Chicago, Illinois, assignor of one-half to Lucas Kuczkowski, Chicago.

709,935. Dress shield. Alexander T. Stevenson, Bay City, Michigan.

709,959. Vehicle tire. Frank P. Brining, Westgrove, Pennsylvania.

709,977. Pneumatic Cushion. John H. Finney, Chicago, Illinois, assignor of one-half to David G. Gilmore, Chicago.

709,993. Article of manufacture having an elastic portion and a securing portion. Joseph G. Moomy, Erie, Pennsylvania.

710,073. Elastic tip. Philip W. Pratt, Boston, and Rolon E. Foster, Revere, assignors to Daniel S. Pratt, Brookline, Massachusetts.

710,090. Toy. David J. Wilson, Washington, D. C., assignor to Herrell Espey Manufacturing Co., Washington.

710,114. Nipple. Edward E. Menges, New Haven, Connecticut, assignor to the Seamless Rubber Co.

710,135. Rubber tire setting machine. John C. Blake, Toledo, Ohio, assignor to The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.

710,198. Manufacture of playing balls. Eleazer Kempshall, Boston, Massachusetts.

710,274. Tire for wheels. Everett Horton, Bristol, Connecticut.

710,306. Rubber dam holder. George W. Todd, Elmwood, Nebraska, assignor of one-third to Hans Peter Jensen, Omaha.

710,368. Manufacture of playing balls. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

APPLICATIONS—1902.

16,655. Henry Richardson, Birmingham. Pneumatic tires. July 28.

16,660. Edward Bell Raper, York. Patching material for pneumatic tire covers. July 28.

16,762. William Park, Jr., Musselburgh, Scotland. Golf ball. July 29.

16,814. William Higgins, John Daniel Hanbury, and Charles Stanley Gardner, 180, Fleet street, London. Process of treating India-rubber. July 29.

16,865. Samuel Worsley, Buxton. Shields for the prevention of pneumatic tire punctures. July 30.

16,868. William Steane and Charles Lee, Leamington Spa. Rubber boot heel. July 30.

17,014. Richard Russell Gubbins, 95, Pelton road, East Greenwich, London. Treatment of India-rubber waste, and rolling and cutting machines for the same. August 1.

* 17,181. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing balls. August 1.

17,211. Lewis Johnstone, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Pneumatic tire covers. August 5.

17,252. Emil Theodor Braarup, 53, Chancery lane, London. Means of inflating India-rubber balloons. August 5.

17,253. Friedrich Eckert, 53, Chancery lane, London. Waterproof acid-resisting and electrically non-conducting glove. August 5.

17,254. William Frederick Williams, 53, Chancery lane, London. Means of securing elastic tires. August 5.

17,300. S. T. Ealing-Still, 5, Lord street, Liverpool. Soft vulcanite bath sponge. August 5.

17,301. Charles Thomas Kingzett, 24, Southampton buildings, Chancery lane, London. Improvements in golf balls, and in their manufacture. August 6.

17,398. Henri Falconnet and Maurice Perodeaud, 6, Lord street, Liverpool. Pneumatic tires. August 7.

17,431. Edward Blundell, 4, High street, Wem, Salop. Liquid cement for patching tires, insulating electric wires, and the like. August 8.

17,450. Herbert Walmsley, Blackburn. Rubber heel for boots and shoes. August 8.

17,549. Edward Henry Seddon, Manchester. Pneumatic tires. August 11.

17,550. Robert Drysdale, Edinburgh. "The Pneumatic" golf ball. August 11.

17,601. John Orrell, Liverpool. Pneumatic tires. August 11.

17,637. Alexander Cockburn, Glasgow. Improvements in vulcanizing rubber boots or shoes. August 12.

17,638. John Cockburn, Glasgow. Improvements in water bottles, beds, cushions and the like. August 12.

17,639. John Cockburn, Glasgow. Improvements in water bottles, cushions, beds, and the like. August 12.

17,655. William Park, Jr., Musselburgh. Golf ball. August 12.

* 17,734. Reginald Haddan, 18, Buckingham street, Strand, London. Tires for wheels. [Richard Allen Kent, United States]. August 12.

17,856. William Henry Josiah White, 2, Marnock road, Crofton road, Brockley, London. Means for preventing punctures in pneumatic tires. August 14.

17,939. Thomas Crompton Redfern, Manchester. Pneumatic tires for cycles and motors. August 15.

17,941. John Cockburn, Glasgow. Pneumatic tire covers. August 15.

18,012. William Saunders, Lochwinnoch, Renfrewshire. Substance for making pneumatic tires puncture proof. August 16.

18,135. Christian Hamilton Gray and Thomas Sloper, 111, Hatton garden, London. Improvements relating to rubbered thread or cable. August 18.

18,217. James Harold Barry, 10, Basinghall street, London. Pneumatic tires for motor cars. August 19.

18,218. Christian Hamilton Gray and Thomas Sloper, 111, Hatton garden, London. Improvements relating to apparatus for the manufacture of rubbered threads. August 19.

18,314. Thomas Harrison Lambert, Christopher Norris Baker, and James Rivers Sherman, 38, Chancery lane, London. Golf balls. August 20.

18,382. George Blackburn & Sons, Limited, and Aubrey Bayly Spring, 111, Hatton garden, London. Improvements in seamless hose and in machines therefor. August 21.

18,395. Frederick John Tregoning, 6, Oriel road, South Hackney, Lon-

- don. Means for preventing the puncturing of pneumatic tires. August 21.
- 13,405. Hugh Veysey, Palatin Cottage, Stoke Newington road, London. Cycle tire puncture preventer. August 21.
- 13,457. Alfred Joseph Thickray, Birmingham. Improvements in elastic boots. August 22.
- 13,462. Earnest Walter Weight, Bristol. Method of attaching pneumatic or other tires to wheel rims. August 22.
- 13,489. Daniel Cunningham, 33, Cannon street, London. Improved puncture proof band for pneumatic tires. August 22.
- 13,490. Willie Judson Stevens, 33, Cannon street, London. Improvements in air compressors. August 22.
- *13,505. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing balls. August 22.
- 13,515. Ernest Compton Crimp, London and South Western Bank, Limited, Hampstead, London. Pneumatic golf ball. August 23.
- *13,588. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Improvements in golf balls. (Date of application in United States May 28, 1902.) August 23.
- *13,589. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Improvements in golf balls. (Date of application in United States, June 14, 1902.) August 23.

PATENTS GRANTED—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 7,179. Tires. Evans-Jackson, J. E., 19, Holborn viaduct, London. April 4, 1901.
- *7,205. Tires. Gideon, W. R., Knoxville, Tennessee, United States. April 6, 1901.
- 7,331. Tires. Cauziani, E., 84, Lombard street, London. April 10, 1901.
- 7,782. Foot coverings. Buist, M. J., Bournemouth. April 16.
- 8,009. Exercising apparatus. Fagan, B. J., 5, Green street, Leicester square, London. April 18.
- 8,013. Air tubes for pneumatic tires. Collier, A. T., "Gonvena," St. Albans, Hertfordshire. April 18.
- *8,069. Golf balls. Saunders, A. T., Akron, Ohio. April 19.
- 8,388. Rubber tires for vehicle wheels. Williams, W. F., 4, Denman street, London, W. April 23.
- 8,624. Readily detachable rubber tire. Brintell, A. H., and Sawyer, E. L., Toronto, Ontario. April 26.
- 8,728. Painting golf and other balls. W. T. Henley's Telegraph Works Co., and Sutton, G., 27, Martins lane, Cannon street, London, E. C., and Hatton, R. J., 50, Carnarvon road, Stratford, E. April 27.
- *8,897. Pneumatic tire. Imray, O., Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. [Wilcox, F. A., and Palmer, T. R., both of Erie, Pennsylvania, United States.] April 30.
- *9,101. Spring and rubber tires. O'Meara, D. H., Worcester, Massachusetts, United States. May 2.
- *9,103. Spring and rubber tires. O'Meara, D. H., Worcester, Massachusetts, United States. May 2.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1902.

- 135,034. Bandage of Caoutchouc or similar material for aiding and strengthening weak muscles. Dr. John Kean Chicago, United States. Sept. 3.
- 135,034. Process for regenerating Caoutchouc parings. Otto Haltenhoff, Hanover. Sept. 3.
- 135,311. Elastic tire, with metallic protecting shield. Mary Holanbek, Vienna, Austria. Sept. 3.
- 135,585. Elastic tire. Thomas Gare, New Brighton, England. Sept. 10.
- 135,586. Pneumatic tire, combined with self-inflating device. The Self-inflating Tyre Co., Limited, London, England. Sept. 10.
- 135,587. Pneumatic cushion for tires, seats, etc., with individual air cells. Ernest Germain, Nancy, France. Sept. 10.
- 135,588. Process for the manufacture of puncture proof insertions for tires. E. C. Boehnke, Königsberg. Sept. 10.
- 135,589. Inner tubes for pneumatic tires. Société Falconnet, Perodaud & Cie Choisy-le Roi, France. Sept. 10.
- 135,590. Elastic tires for automobiles and other vehicles. Theodore Delnyck, Brussels, Belgium. Sept. 10.
- 135,791. Pneumatic tire combined with an inner tube strengthened

- within by elastic rings. Jean Paul Le Grand and Narcisse Chénan, Levallois Perret (Seine), France. Sept. 17.
- 135,792. Hollow rubber tire with stiffening rings within. *Same*. Sept. 17.
- 135,793. Hollow rubber tire with stiffening rings within. [Addition to Patent 135,792]. *Same*. Sept. 17.
- 135,903. Appliance for the manufacture of rubber shoes. Henry James Daughy, Providence, United States. Sept. 17.
- 136,360. Hollow rubber tire with interwoven lacing device. William Frederic Williams, London, England. Sept. 24.
- 136,361. An inner tube, consisting of several layers of rubber, for pneumatic tires. Arthur Thomas Collier, St. Albans, Edgar Oliver Goss, and Arnold Elworthy Williams, London, England. Sept. 24.
- 136,428. Elastic narcotizing mask. Dr. Hermann Nieriker, Zurich, Switzerland. Sept. 24.

PATENTS WITH MODELS FILED.

- 131,999. Nose douche with separate nozzles for each nostril. Carl Lippert, Wasserberg. Sept. 3.
- 132,042. Protecting bag to prevent children from lying wet, the opening of which is supplied with two overlapping flaps. Charlotte Schneider, Leipsic. Sept. 3.
- 132,149. Hygienic apparatus to enable men to urinate without leaving the bed. Hermann Oscar Schieblich, Dresden. Sept. 3.
- 132,517. Hose supporter, consisting of an India-rubber girdle with opposing hooks on each end. Richard Apel, Leipsic. Sept. 10.
- 132,576. Protecting shield for pneumatic tires, consisting of alternate layers of rubber and woven materials, inserted in outer tube. Koch and Palm, Elberfeld. Sept. 10.
- 132,617. Bandage for rupture of the navel and rupture of the *linea alba*, consisting of one piece of woven rubber cloth with circular arrangement of the rubber threads. Schniewind and Schmidt, Elberfeld. Sept. 17.
- 132,821. Vulcanizing appliance with interchangeable frames. Philip Penin Gummiwaaren Fabrik A.-G., Leipsic. Sept. 17.
- 132,638. Protecting shield for pneumatic tires, consisting of alternate layers of elastic and textile stuffs, arranged in groups. Koch and Palm, Elberfeld. Sept. 17.

APPLICATIONS.

- C 10,490. Pneumatic tire, combined with a protecting surface composed of metal segments. Bernard Hippolyte Chameroy, Le Bésinet, France. Sept. 17.
- B 29,495. Process for vulcanizing rubber and articles made of Caoutchouc without heat. Friederich Boegel, Altötting. Sept. 17.
- H 27,740. Elastic thorax band. Dr. Carl Hütlin, Freiburg. Sept. 17.
- B 4,425. Process for making sponges of Caoutchouc. Vereinigte-Gummiwaaren-Fabriken, Harburg-Wien, Harburg. Sept. 24.

IKELEMBIA RUBBER.

A LETTER from a German factory to THE INDIA RUBBER WORLD says: "We have been buying some Accalamba rubber, and as it is new to us there has been a dispute among the officers of our crude rubber department about the source of this grade. As we are aware that this rubber is known in the United States, we have no doubt that you can give us some information about it."

The rubber referred to evidently is that produced on the concession of the Société Anonyme "L'Ikelemba," a Brussels company, on the river Ikelemba, a tributary of the Congo, the name of which river is variously spelled. The rubber is of the Lopori class. A broker in New York reports: "Lopori used to be known as the best white grade of the upper Congo, but it has degenerated so that the name Lopori now covers a great many different grades and qualities of strip and ball, so that the importers, to have their customers understand which is the cement quality, call it 'Ikelemba ball' and 'Ikelemba strip.' The shrinkage on this grade of rubber is said to be less than on any other coming from the upper Congo."

The Ikelemba company's rubber is consigned to M. S. Cols, at Antwerp, where it is offered at the regular inscription sales and thus finds its way into consumption.

PROGRESS OF RUBBER PLANTING.

PROFITS FROM A RUBBER PLANTATION.

THE INDIA RUBBER WORLD is often in receipt of inquiries regarding actual results attained in rubber culture, as a basis for estimating possible profits. The answer that must be made in all cases is that none of the extensive plantations thus far formed on a commercial scale are yet old enough to have become productive, but that the planters have been induced to embark in the business by what has been observed of the rate of growth and production of a few trees at a place, in many localities, and under varying conditions. Mention has been made more than once in THE INDIA RUBBER WORLD of a rubber plantation in the state of Chiapas, Mexico, from which shipments of rubber have actually been made. About thirteen years ago a Mexican planter set out a number of rubber trees (*Castilloa elastica*) as a shade for cacao, which grew so rapidly that in time the cacao was practically starved out, and of those trees some 5000 are now standing, in a vigorous condition. A few years ago Mr. O. H. Harrison, engaged in coffee planting in Chiapas, bought this property, including adjacent lands containing wild rubber trees, for \$12,000, Mexican. Within eight months he had sold in London enough rubber from the wild and cultivated trees to pay the purchase price for the property. This formed the basis for La Zacualpa rubber plantation. A like amount of rubber has been sold from the property each year since, and more land has been purchased, the cost of the whole having been met by the proceeds of the rubber sold. During this time there has been no outlay for labor in caring for the cultivated trees, beyond the collection of rubber. The land having been paid for, the proceeds of rubber sales will be devoted to dividends on La Zacualpa shares. Mr. Harrison reports that these trees yield an average of at least 2 pounds of rubber a year—tapped once—and is convinced that a good profit could be made with a yield of half as much, which would give from 200 to 300 pounds of rubber per acre, according to the number of trees. The new planting on La Zacualpa plantation has been done with seeds from the productive trees referred to, so that no doubt can exist as to the variety that is being planted.

PLANTING "CEARA RUBBER" IN NICARAGUA.

LA Victoria Rubber Plantation has been formed at La Paz, Nicaragua, for the cultivation on a considerable scale of the Ceará rubber tree (*Manihot Glaziovii*). The location is on the Pacific slope, where the rainfall is slight as compared with that in eastern Nicaragua, and in other respects the conditions resemble those of the Brazilian state of Ceará, the native *habitat* of this species of rubber. La Paz is on the railway extending from Grenada, on Lake Nicaragua, through the city of Managua to the Pacific coast, and is favorably situated for trade and transportation. This is a private enterprise, owned by George Adler, who for a number of years has given close study to the different species of rubber. Mr. Adler is now in Nicaragua. The plantation manager is Fredrico Wagner. Alfred C. Adler, of Waltham, Massachusetts, is also interested in the plantation. About 300 acres have been planted to date, and with such results in the growth of the trees that the work is to be extended.

ILLINOIS COFFEE AND RUBBER CO.

[Plantation "La Flor del Istmo," state of Oaxaca, Mexico. Office: No. 135 Adams street, Chicago, Illinois.]

INCORPORATED December 31, 1900, under Illinois laws; cap-

ital, \$50,000, paid in cash. Organized to develop 5000 acres—part of the "hacienda de Santa Maria Chimalapa," owned formerly by Duplan Brothers—near the National Tehuantepec railway. It is planned to cultivate coffee, rubber, and other tropical products. For development purposes the estate has been deeded to the Chicago Title and Trust Co., to secure the issue of 5000 profit sharing certificates, 1000 of which are held by the Illinois Coffee and Rubber Co. and the others offered for sale on the instalment payment plan. The trust period is 25 years, after which the plantation may be sold for the benefit of the shareholders, or continued if four-fifths of the latter should so desire. Officers: *Frederick H. Herhold*, chair manufacturer, president; *Edwin M. Kenyon*, manufacturer wooden pulleys, vice president; *William H. Heuer*, a former bank teller, treasurer; *Seth Riford*, real estate, secretary—all of Chicago.

LA LUISA PLANTATION ASSOCIATION.

[Plantation "La Luisa," Tezonapa, state of Vera Cruz, Mexico. Office: No. 504 Great Northern building, Chicago, Illinois.]

INCORPORATED February, 1902, under Illinois laws, to plant coffee, rubber, and other tropical crops. The plantation comprises 3250 acres, and 3000 development certificates have been offered for sale on the instalment payment plan. The officers are: A. L. Everit, president; William C. Heinemann, vice president and treasurer; T. M. Kimball, secretary—all of Chicago. The plantation manager is E. O. Darley. The trustee and registrar company is the United States and Mexican Trust Co., with \$2,500,000 capital and offices in the United States, Mexico, and London.

RUBBER PLANTING IN THE FAR EAST.

SOME very definite details of the extent of rubber planting in Negri Sembilan, one of the Federated Malay States, appear in the annual report for 1901 of the Planters' Association of that state. Of Pará rubber the report says: "This appears likely to be the salvation of the coffee planter. On most estates it will be found planted through the coffee, to which it appears to do very little damage." Members of the association are also planting more "rambong" rubber (*Ficus elastica*) than formerly, but with what results no one cares to prophesy. "At present so far as is known the rubber is of a superior quality, but tapping appears difficult in the case of young trees." Returns from twenty-one estates represented in the Negri Sembilan Planters' Association are presented, from which is derived the following summary:

	Acres.
Planted to coffee only.....	650
Coffee, planted through with Pará rubber.....	2,852
Coffee, with <i>Ficus elastica</i>	410
Coffee, with Pará rubber and cocoanuts.....	250
Coffee, with cocoanuts.....	190
Pará rubber alone.....	445
<i>Ficus elastica</i> alone.....	147
Cocoanuts alone.....	437
Total.....	5,381
Total on which rubber is planted.....	4,294

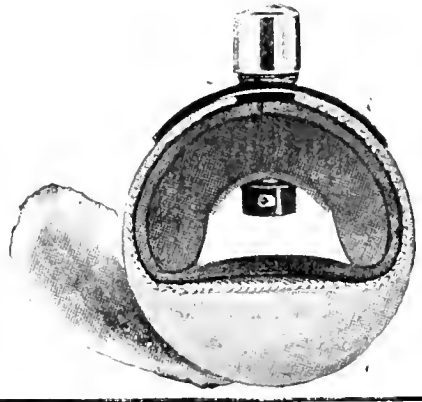
Of the laborers employed on these estates, 1663 are Tamils, 189 Malays, and 154 Chinese and others. The new planting during the year 1901 amounted to 134 acres, devoted to rubber alone.—The Selangor Planters' Association, mentioned from time to time in THE INDIA RUBBER WORLD on account of the interest taken by its members in rubber planting, has been amalgamated with the United Planters' Association of the Federated Malay States.

PLANNING FOR LARGE PROFITS IN TIRES.

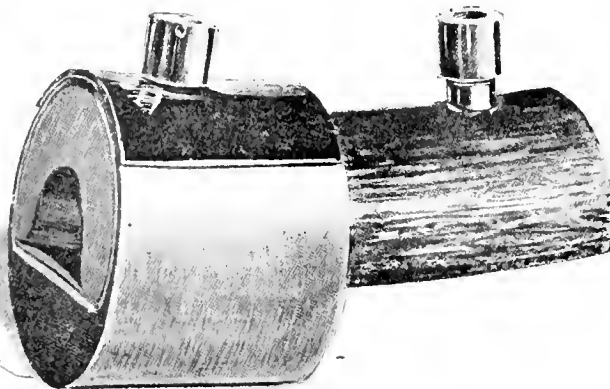
ON September 6 the International Wheel, Tire, and Rubber Co. leased the property of the New Brunswick (N. J.) Tire Co., which, from 1850 to 1896, was employed in the manufacture of shoes by the New Brunswick Rubber Co. The International company were incorporated January 15 last, under New Jersey laws, with an authorized capital of \$3,000,000, to acquire and work certain tire and wheel patents. Recently efforts have been made to secure capital for the new enterprise, and THE INDIA RUBBER WORLD is advised by an official of the company: "We hope to be able to start up the factory in a very short time, and have orders enough to keep quite a force of employes at work for some time, and there will be no trouble to get all the orders that we can take care of."

The principal patent owned by this company is that on the Davis "Common Sense" tire, the invention of E. C. Davis and William F. Ellis, of Springfield, Massachusetts. Patents on this tire have been issued in sixteen different countries, including the United States; applications have been made in five other countries, and it is understood that at least four of them have been allowed. The new tire is not a pneumatic tire, as may be seen from the accompanying cuts; it is not required to be inflated; and is offered as unpuncturable. It is described as being lighter than any cushion tire, less than half the weight of a solid tire, and about 20 per cent. heavier than a good pneumatic tire, without its rigidity.

The company plan to make and sell complete wheels, in which are embraced the patent for the Ellis and Davis nipple, by means of which spokes may be replaced without removing the tire; also the Davis adjustable hub, which "is constructed to fit any axle from $\frac{3}{4}$ inch to $1\frac{1}{8}$ inches in diameter, and can be adjusted to any size within that range inside of three min-



SECTION OF SOLID TIRE.



CONSTRUCTIONAL VIEW OF NEW CARRIAGE TIRE.

utes." The idea is to sell a customer one set of wheels with which he may equip any number of different vehicles, provided that he does not want to ride in more than one at a time. In regard to these wheels, the International company report:

They can be manufactured so cheaply that every other tire manufac-

turer can be undersold and we will still have a profit of 100 per cent. It is safe to say that, as soon as the consumers have an opportunity to learn the splendid quality of these wheels, we will have a monopoly of the wheel and tire manufacturing of the world. Our patents are perfect. No one else can make anything just as good. . . . Our plant will have a total capacity of 4000 wheels a day when the alterations are completed. Running at half our capacity, we can turn out 2000 wheels a day. The market exists for forty times that number of wheels.

The estimated yearly profit of the new company is \$4,080,000, on the basis of 2000 wheels per day, and \$150,000 on general rubber goods, making \$4,230,000 all told, or 140 per cent. on the total capitalization of the company. "This capacity will be doubled when the improvement and alterations are completed. It will mean 280 per cent. on the par value of the stock each year."

In order to provide means for making these improvements, H. N. Field & Co., brokers, of New York, were asked to market 200,000 shares of the company's stock, of the par value of \$1, which they offered at 40 cents per share with a guarantee that the same would be repurchased by the company at an advance of 2 per cent. weekly, from the purchase price, until the market price of the stock should exceed said 2 per cent. weekly. Twelve days later it was announced that the 200,000 shares had been marketed and additional shares were being offered at 50 cents. The company state: "We should not be surprised in the least if this stock sold within the next few years at \$5 per share. . . . You can borrow upon the certificates of this company as much as you can on real estate."

The president of the International company is Walter R. Comfort, president of the Reid Ice Cream Co., New York; the vice president and treasurer is Henry L. Prentice, broker, of New York; the secretary is F. D. Palmer, of Poughkeepsie, New York; the general manager is William Sanford, formerly in a similar capacity with the New Brunswick Rubber Co. and the New Brunswick Tire Co.

A handsome pamphlet issued by the company contains a number of views outside and inside of the New Brunswick factory based upon what must have been very good photographs.

MOZAMBIQUE RUBBER REGULATIONS.

THE British acting consul in the Portuguese province of Mozambique, in reporting on the falling off of certain exports during the year 1901, says that formerly India-rubber was shipped in important quantities from that region to Hamburg and elsewhere, but that the export was stopped entirely in the early part of the year, the authorities stating that owing to the admixture with the rubber of other substances for the purpose of increasing its weight, it was acquiring a bad reputation in the European markets, and that until such time as the collectors could find means to produce a rubber calculated to create a demand for the produce of the country, no more should be exported. Naturally this somewhat arbitrary order had a disastrous result, for many traders who had accumulated large stocks found themselves unable to put their rubber on the market. Later this prohibition was withdrawn by the governor-general, and an order was published in the *Boletim Oficial de Mocambique* of May 10, 1902, permitting the exportation of rubber, subject to the payment of the following *ad valorem* duties: Rubber extracted by cooking 20 per cent.; impure rubber extracted by incision 8 per cent.; rubber extracted by incision, but pure, 3 per cent.

In 1881 the exports of rubber from the port of Mozambique alone reached 507,278 pounds. In 1884 the exports from the whole province were 343,385 pounds, including 143,497 pounds from Mozambique.

JOTTINGS FROM MANAOS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The managers of the leading buying houses in Manáos, who have been interviewed by your correspondent, are mostly averse to expressing opinions in regard to the size of the rubber crop during the season lately begun. It appears customary, however, to declare that the crop will be very small. From what can be gathered from captains of river steamers and from other sources, it would appear that the rubber crop will probably be a little smaller than last year, and that much of it will be marketed late. Last season's production, by the way, broke all records. The rivers have risen to an exceptional height this year, and the fall has been so slow that the greater part of the lower Juruá and the Purús, all the lakes tributary to the Solimões, the Madeira, and Negro are still under water. Hence the rubber gatherers have not gone to work on these rivers, and probably will be unable to do so before November.

The number of boats going up river this year is considerably less than for several years past, owing to the financial crisis from which the rubber centers have not yet recovered. Forty-two steamers left Manáos during August for the Negro, Solimões, Madeira, Purús, Juruá, and the lower Amazon, against sixty-three steamers for the same rivers in August last year. Fairly good cargoes of rubber may be expected from the Juruá and Madeira: a decline from the Purús and Negro, and about the same as usual from the Solimões. The health of the rubber regions is fairly good.

There is likely to be little Caucho cut this year, and what is gathered will be shipped as ball or strip. Advices from Peru are that the Caucho is practically exhausted on the Purús and Juruá, but that new fields are being opened on the Casiquiare, Tapajós, and Xingu. The new crop of Caucho on the Ucayali will probably be cut next year, when it can be determined whether, as the Indians claim, the new Caucho trees which spring up from the roots of those cut down will yield a good quantity of latex.

New rubber fields have been discovered on the Juruá, but the tree does not appear to be the *Hevea*, answering more nearly to the description which THE INDIA RUBBER WORLD has given of the Mexican *Castilloa*. The rubber obtained is said to be weak—i. e., to break easily on tension, but the captain of one of the river steamers informs me that the *sernamby* (coarse) is excellent, and even better than that obtained from the *Hevea*. I hope to visit the new rubber fields in October and to send you a fuller description of the same.

Some of last year's product of Upriver rubber was of rather poor quality, which, in the opinion of some, was due perhaps to the fact that the floods last season were less extensive than usual and rapidly subsided. It is held here that the longer the rubber fields are under water in any year, the better will be the quality of the rubber and the greater the amount obtained. If there is anything in his theory it may be that the irrigation of plantations may prove desirable where the same species of rubber is cultivated.

During August the receipts at Manáos included 741,902 kilograms of rubber and 51,017 of Caucho, as against 783,775 and 67,062 kilograms, respectively, in August, 1901. The greater part of the rubber was received from the Madeira and Purús.

Things are very quiet in the rubber market, fears, or hopes, of a fall in exchange being freely expressed and the up country merchants awaiting developments. Stocks in Manáos consist of 22 tons of fine and coarse.

Several large land owners are considering seriously the question of importing Chinese labor for rubber work, owing to the

lack of sufficient native labor. [One obstacle to the importation of Chinese labor into the Brazilian rubber fields is pointed out by Mr. Ashmore Russan in THE INDIA RUBBER WORLD of October 1—page 6.—THE EDITOR.]

It is believed that Balata (*Mimusops*) abounds along the Solimões, Jutahy, and some other streams, and there is a revival of talk of having these resources explored, but up to date the enterprise has not passed the talk stage.

The Acre controversy continues to excite the passions of everybody. An expedition has gone there with a view to establishing the independence of that territory and later of handing it over to Brazil. As long as the revolutionists remain in the mouth of the Acre no rubber can come out, and naturally until the trouble is over the working of rubber gathering will be paralyzed. I presume that you already know that Minister Murtinho has closed the Amazon to the passage of goods destined for Bolivia.

The Associação Commercial has been creating quite a furor because the government, in leasing the state pier to the Manáos Harbour, Limited, required that all rubber shipped from Manáos be boxed in the warehouses appertaining thereto. The governor refused to pay any attention to its complaints, whereupon the association declared war against the Booth line of steamers, because Alfred Booth is a director in the Manáos Harbour, Limited. Work has already been begun on the port improvements, including the construction of the huge warehouse for the reception of rubber.

The Brazilian federal government at last has decided to assist agricultural effort and offers to supply seed of *Hevea*, maniçoba (Ceará rubber), cotton, etc., to anyone who, being a *bona fide* land owner and planter, applies to the minister of industry. Several residents of the Autaz district of the Madeira are beginning to plant rubber. In Anatay exists a plantation of 3000 *Heveas*, and in Bocapeguena one of 2000. A man in Caiçana, on the Solimões, has planted 800 maniçobas and 1000 *Heveas*.

R. Mardock evidently has resigned as manager of the Amazon Telegraph Co., Limited, as he is seeking a state subvention for a wireless telegraphy system between Pará and Manáos. Meanwhile a representative of Marconi is on the ground, threatening an action for infringement. On the 16th, Mardock and C. H. Anchas (an American) gave a dinner to the governor, the members of congress, and the press, during which a wireless message was dispatched across the rio Negro. The message was not received on the other side, because—the receiver had burnt out.

LYONEL GARNIER.

Manáos, Brazil, September 20, 1902.

RUBBER RECEIPTS AT MANAOS.

DURING the first three months of the crop season—July 1 to September 30—and compared with former years:

FROM—	1902.	1901.	1900.
Rio Purús.....	768	880	695
Rio Madeira.....	734	594	699
Rio Juruá.....	231	304	189
Rio Javary—Iquitos.....	155	155	34
Rio Solimões.....	163	257	105
Rio Negro.....	65	16	1
Total.....	2116	2206	1723
Caucho.....	259	391	292
Total.....	2375	2597	2015

Letters received by the trade at New York predict that several thousand tons of rubber will be delayed in transit from Bolivia this year, in order to avoid the payment of double export duties—to Bolivia and Brazil—which accumulation may be a disturbing factor in the market all season.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first eight months of 1902, compared with the same period of three years preceding, not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January July.	\$356,105	\$355,002	\$1,116,558	\$1,857,755
August, 1902.	73,766	169,537	181,574	424,877
Total . . .	\$459,871	\$524,629	\$1,298,132	\$2,282,632
Total, 1901.	398,917	394,397	1,203,086	1,996,310
Total, 1900.	359,840	350,286	1,000,839	1,710,965
Total, 1899.	(a) 110,604	169,688	1,024,206	1,304,498

(a) Included in "All Other" prior to July 1, 1899.

The number of pairs of rubber boots and shoes exported during August was 386,334, against 260,707 pairs in the same month of 1901, and 221,021 pairs in August, 1900.

RUBBER GOODS EXPORTS FROM NEW YORK.

USUALLY about 60 per cent. of the total exports of rubber goods from the United States are shipped from New York. The value of such shipments from this port during the three months ending September 30, 1902, was \$434,839, and the destination of exports was as follows:

FOUR WEEKS ENDING JULY 29.

Details in THE INDIA RUBBER WORLD, September 1. . . . \$117,578

FOUR WEEKS ENDING AUGUST 26.

Argentina. . . \$	150	Denmark. . .	682	Norway. . .	432
Australia. . .	5,042	Dutch W. Ind.	40	Nova Scotia. .	283
Aus.-Hung'y.	282	Ecuador. . .	953	Port. Africa. .	674
Belgium. . .	3,233	Egypt. . .	12	Peru. . .	45
Brit. E. Ind.	258	France. . .	4,481	Philippines. .	6,745
British Africa	7,331	Germany. . .	11,700	Russia. . .	25
Brit. W. Ind.	573	Great Britain.	42,983	Sweden. . .	437
Brazil. . .	532	Haiti. . .	66	Switzerland. .	1,258
China. . .	225	Italy. . .	521	San Domingo. .	85
Central Amer.	1,028	Japan. . .	2,772	Turkey. . .	13,699
Chile. . .	352	Mexico. . .	3,583	Venezuela. . .	323
Cuba. . .	6,203	Netherlands. .	1,142		
Colombia. . .	895	New Zealand. .	55	Total. . .	\$119,103

FOUR WEEKS ENDING SEPTEMBER 23.

Argentina. . . \$	194	Dutch E. Ind.	60	Nova Scotia. .	315
Australia. . .	7,497	Dutch Guiana	51	Peru. . .	570
Aus.-Hung'y.	1,552	Dutch W. Ind.	66	Philippines. .	394
Belgium. . .	2,051	Ecuador. . .	187	Port. Africa. .	99
Brazil. . .	857	France. . .	11,961	Russia. . .	995
Brit. Africa. .	8,147	Germany. . .	16,165	San Domingo .	191
Brit. E. Ind.	688	Great Britain.	58,987	Spain. . .	3,134
Brit. Guiana.	229	Haiti. . .	22	Sweden. . .	2,253
Brit. W. Ind.	795	Italy. . .	4,261	Switzerland. .	3,867
Central Amer.	170	Japan. . .	3,515	Turkey. . .	3,162
Chile. . .	808	Mexico. . .	2,102	Turkey (Asia) .	3,542
Colombia. . .	418	Netherlands. .	4,413	Venezuela. . .	512
Corea. . .	8	Newfoundld.	247		
Cuba. . .	7,125	New Zealand	3,079	Total. . .	\$161,041
Denmark. . .	1,762	Norway. . .	3,540		

WEEK ENDING SEPTEMBER 30.

Details in the next INDIA RUBBER WORLD. \$35,117

The average value of such exports for the thirteen weeks was \$33,449. The weekly average during the corresponding three months two years ago was \$26,969.

Some other exports from New York during the three months ended September 30, 1902, were in value as follows:

CLOTHES WRINGERS.					
Abo	..... \$ 20	Drammen	..... 20	Kiel	..... 125
Antwerp	..... 2,488	Düsseldorf	..... 330	Liverpool	..... 684
Bremen	..... 98	Frankfort	..... 692	London	..... 5,018
Brussels	..... 131	Glasgow	..... 1,290	Manchester	..... 22
Bordeaux	..... 85	Gothenberg	..... 342	Rotterdam	..... 3,687
Bremerhaven	..... 270	Hamburg	..... 3,494	Stockholm	..... 506
Christiana	..... 1,536	Havre	..... 389	Stavanger	..... 75

		RUBBER THREAD.		RECLAIMED RUBBER.	
Wiborg.....	105	Antwerp.....	\$ 2,675	Christiana...	\$ 940
Windau	80	Barmen.....	300	Genoa.....	5,600
Wasa.....	20	Genoa.....	5,200	Glasgow.....	18,236
Argentina.....	168	Hamburg.	12,145	Hamburg.....	5,293
Mexico.....	67	Havre.....	2,359	Havre.....	12,694
New Zealand..	3,487	Hull.....	1,427	Liverpool....	5,980
Peru.....	23	Rotterdam....	3,487	London.....	1,425
Uruguay.....	24	Central Amer..	1,235	Stettin.....	25
Australia.....	3,161			Japan.....	230
Japan.....	18				
British Africa.	683	Total....	\$28,888		

Total. . . \$33,317

DRESS SHIELDS.

Antwerp. . .	\$13,834	Brussels. . .	250	Antwerp. . .	\$ 601
Brussels. . .	100	Breslau. . .	60	Barcelona. . .	300
Glasgow. . .	1,409	Copenhagen. .	250	Brussels. . .	250
Havre. . .	2,217	Christiana. . .	10	Breslau. . .	60
Hamburg. . .	49,580	Frankfort. . .	400	Copenhagen. .	250
Liverpool. . .	20,365	Fiome. . .	50	Christiana. . .	10
London. . .	29,697	Hamburg. . .	910	Havre. . .	400
Odessa. . .	514	Genoa. . .	15	Liverpool. . .	20,320
Rotterdam. . .	954	Lyons. . .	88	London. . .	7,010
Vienna. . .	640	Leith. . .	14,351	Lyons. . .	88
Argentina. . .	375	Offenbach. . .	16	Manchester. .	1,050
New Zealand. .	445	Rotterdam. . .	815	Vienna. . .	50
Mexico. . .	645	Vienna. . .	18	Japan. . .	441
Australia. . .	2,551	Cuba. . .	135	British Africa. .	360
		British Africa. .	34	New Zealand. .	11
		Australia. . .	60	Nova Scotia. . .	58

Total. . . \$123,326

Total. . . \$3,988

Total. . . \$92,670

The goods classed under the above headings do not embrace all the manufactures of India-rubber exported. For example, some hard rubber, not embraced in the table above, must have been included in the exports of "electrical material," which in a recent week amounted in value to \$41,041, aside from "electrical machinery." Then some of the vehicles, bicycles, and baby carriages exported must have had rubber tires. "Bicycle materials" amounted in the same week to several thousand dollars, dental goods to \$6966, and there were toys, sporting goods, photographic supplies, druggists' sundries, scientific instruments, and numerous other items of which rubber often forms a part. Outfits of mining machinery and the like—a single shipment of "drilling material" amounted to \$11,412—doubtless embrace more or less rubber hose, belting, packing, etc., not separately specified in the customs statistics. Carpet sweepers, exported during the week to the value of \$1388, and "talking machines," worth \$12,744, also involve the use of rubber; there was a telegraph cable invoiced at \$3205; there were stamp goods—and the list might be extended indefinitely.

Boston ranks next to New York in the value of rubber goods exported, with small quantities from several other ports.

CANADIAN RETURNS.

VALUES of imports for consumption, for the year ending June 30, 1902, of India-rubber and Gutta-percha, and manufactures thereof:

	1900-01.	1901-02.
Crude. . .	\$1,986,913	\$1,656,275
From Great Britain. . .	\$ 254	\$ 5,966
" United States. . .	1,999,474	1,628,205
" Other countries. . .	17,185	22,104
Manufactured. . .	609,891	771,426
From Great Britain. . .	155,384	217,477
" United States. . .	432,649	521,063
" Other countries. . .	21,858	31,986

The smaller return for raw material for the past year doubtless is to be accounted for in part by a slightly smaller importation, but chiefly in the lower prices of India-rubber prevailing since January last. The crude materials embraced in the return for 1901-02 were:

Gutta-percha (7358 pounds).	\$ 2,125
India-rubber (2,903,080 pounds).	1,404,257
Reclaimed rubber and rubber substitute.	249,893
Total.	\$1,656,275

NEWS OF THE AMERICAN RUBBER TRADE.

INTERNATIONAL RUBBER MANUFACTURING CO.

THIS company have purchased the plant formerly owned and operated by the U. S. Rubber Reclaiming Works, at Provost street and Pavonia avenue, Jersey City, New Jersey, for the purpose of manufacturing solid rubber tires and a general line of mechanical rubber goods. They are putting in the latest designs in machinery for the manufacture of hose, belting, and the like, and hope to be able to begin the marketing of such goods by December 1. They are already equipped for making tires and molded goods, having now in operation nine 5 plate hydraulic presses for molded goods, 4 large vulcanizers for tires, etc. They are having erected two 3 roll and one 5 roll calender. The president of the company is Berthold Loewenthal, and the secretary, treasurer, and general manager is Edward B. Loewenthal. The New York office, at Nos. 290-291 West street, is in charge of the general manager, and the Chicago office, Nos. 160-162 Fifth avenue, in charge of the president. The general superintendent of the factory is W. T. Snowden, formerly with the Manhattan Rubber Manufacturing Co. and the Plymouth Rubber Co. John W. Teller, some time with the Diamond Rubber Co., and lately manager of the New York office of the Pennsylvania Rubber Co., has been appointed sales manager of the mechanical department, and Samuel H. Robinson sales manager of the solid tire department. The company's selling force includes also H. W. Harrison, L. F. Stillwell, and H. L. MacDonald.

THE MANUFACTURED RUBBER CO.

At a special meeting of the shareholders, held on October 16 at Camden, New Jersey, it was voted to adopt a plan of reorganization which involves an amended certificate of incorporation. The company was organized in May, 1899, with an authorized capital of \$6,000,000, divided into 20,000 cumulative 8 per cent. preferred shares of \$50, and 100,000 common shares of \$50. The 100,000 shares of common stock are to be exchanged for 50,000 shares of the new common stock, full paid and non-assessable. The 20,000 shares of 8 per cent. cumulative preferred stock are to be exchanged for an equal number of shares at 6 per cent. cumulative preferred stock. The payment of the call already made of \$1 per share on the old preferred stock was guaranteed by a syndicate which will receive as consideration a certain amount of new common stock. The remaining shares of the new common stock will be retained in the treasury for future use. The new board of directors consists of W. W. Gibbs, Charles W. Sloan, Joseph Appleton, Charles T. Dunn, Clayton E. Platt, Robert B. Baird (president of the Rubber Trading Co., of New York) and John S. Windt. The company have been making reclaimed rubber for the past eighteen months at Metuchen, New Jersey.

HENRY SMYTHE (NEW YORK).

SEVERAL judgments having been entered against Henry Smythe, rubber broker, of No. 3 South William street, New York, a meeting of his creditors was called and held at his office on October 9, when, after a statement had been made of Mr. Smythe's affairs, it was resolved by unanimous vote that Woolsey Carmalt, attorney at law, No. 35 Nassau street, be appointed trustee of all accounts receivable, stock on hand, etc., with an advisory committee composed of Frank A. Dillingham, Hermann Reimers, and Dwight B. Cruikshank, to be consulted in regard to the marketing of such stock—the resolution to be effective

upon being ratified by all unsecured creditors. Mr. Smythe did not ask for any release of claims against him. He only asked time to realize on assets which he believed were sufficient to discharge his indebtedness in full, but which were of such a nature that they could not do so when administered through an assignee in bankruptcy.

RUBBER BELTING IN TENNESSEE.

THE census returns of manufactures embrace details from 18 factories under the classification "Belting and Hose—Rubber," including one in Tennessee. There is, of course, no rubber factory properly so called in that state, but the census returns embrace "value of product, including custom work and repairing." The enumerators at work in Memphis appear to have included the work done in putting up rubber belting by Towner & Co., of that city, who are large dealers in such goods. With this explanation, Tennessee is entitled to be credited with one rubber factory, though no similar establishment in any other state is classed under the same heading.

AMERICAN VACUUM DRYING MACHINE CO.

THIS company has purchased the patent rights of the Alex. P. Mende vacuum drying chambers, which have been mentioned in THE INDIA RUBBER WORLD as having been successfully employed in a number of rubber factories for the drying of crude rubber. Mr. Mende is president of the new company. Facilities have been secured at New Hamburg, New York, for the building of the apparatus. The New York office of the company is at No. 120 Liberty street, where the apparatus can be examined. The laboratory vacuum drying chambers, 15" x 18," with about two square feet of pan service, suitable also for practical drying tests preparatory to ordering large vacuum drying chambers, is for sale by Eimer & Amend, wholesale druggists and manufacturing chemists, at Third avenue and Eighteenth street, New York, and can be seen in operation at their store.

THE EUREKA FIRE HOSE CO. (JERSEY CITY).

SOME improvements in the plant of this company now under way will include the erection of additional buildings for the extension of their various departments, and to meet the steadily increased demand for their brands of fire hose. They have decided to discard their present direct-current power transmission system and to adopt an alternating current system, in order to reduce the cost of fire insurance when motors are used in the presence of inflammable material. This step has been taken on the advice of one of the largest insurance companies. The new apparatus will include one 75 kilowatt belt-driven alternator, furnishing two-phase current at 7200 alternations and 220 volts; also exciter, switchboard equipment, slide rails, rheostats, etc. A number of induction motors have been purchased, including five of 15 H.P., one of 10 H.P., five of 5 H.P., and three of 2 H.P. With these will be furnished a switchboard panel completely equipped with instruments and switches. The entire electrical equipment has been ordered from the Westinghouse Electric and Manufacturing Co.

THE AMERICAN BICYCLE CO.

At the date announced for the annual meeting at Jersey City—October 14—there were not a sufficient number of shareholders present to form a quorum, and an adjournment was taken, subject to a call by the shareholders. As mentioned in the last INDIA RUBBER WORLD, the company is in the hands of receiv-

ers, who are large holders of the company's obligations. Just when the reorganization committee will have plans completed for the adjustment of the company's affairs is reported to be uncertain. It is stated that the order of the court permitting the issuance of certificates to the amount of \$500,000 against the stocks of the International Motor Car Co. and the Federal Manufacturing Co., which are owned by the American Bicycle Co., will put the affairs of those concerns in a much stronger position. It is said that the entire \$500,000 has been subscribed. It is intimated that the American Cycle Manufacturing Co., which is also controlled by the American Bicycle Co., and is in the hands of receivers, will seek to improve its finances by asking the court for permission to issue some sort of certificates.

IOWA RUBBER CO. (DAVENPORT, IOWA).

THIS company have filed amended articles of incorporation with reference to the shares of capital stock. Formerly their capital of \$300,000 was divided into 10,000 shares of \$30 each. Under the change the total number of shares is 1000, of \$300 each. Frank M. Hanna is president; Fred W. Noel, vice president; and S. H. Noel, secretary and treasurer.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sep. 20	6,500	19	17	2,650	59 $\frac{3}{4}$	57
Week ending Sep. 27	5,115	19 $\frac{1}{4}$	16 $\frac{1}{2}$	1,060	59	56 $\frac{3}{8}$
Week ending Oct. 4	3,100	19 $\frac{5}{8}$	17 $\frac{5}{8}$	1,200	58 $\frac{5}{8}$	56 $\frac{5}{8}$
Week ending Oct. 11	1,247	18	17 $\frac{3}{8}$	600	56 $\frac{1}{2}$	55
Week ending Oct. 18	530	17 $\frac{1}{2}$	17	586	56	54
Week ending Oct. 25	3,470	10 $\frac{3}{8}$	18	1,350	58	71 $\frac{1}{2}$

RUBBER GOODS Manufacturing Co. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sep. 20	14,430	23 $\frac{1}{2}$	20 $\frac{7}{8}$	2,780	72	68 $\frac{3}{4}$
Week ending Sep. 27	3,510	22 $\frac{3}{4}$	21	160	71	71
Week ending Oct. 4	2,900	22 $\frac{1}{4}$	20 $\frac{5}{8}$	100	68 $\frac{3}{4}$	68 $\frac{3}{4}$
Week ending Oct. 11	2,040	21	20 $\frac{1}{4}$	100	69	69
Week ending Oct. 18	4,700	22 $\frac{1}{2}$	20	500	71	69
Week ending Oct. 25	14,360	25 $\frac{3}{8}$	23	2,780	73	71 $\frac{1}{2}$

PEQUANOC RUBBER CO. (BUTLER, N. J.)

THE Pequianoc Rubber Co. have increased their capital stock from \$60,000 to \$120,000, and are planning several additions to their plant, having been obliged for some time past to work their factory night and day in order to keep pace with their orders. They have developed a splendid reputation for a high grade reclaimed rubber made by a purely mechanical process, perfected on new lines, the product of which is winning great confidence in the rubber trade. It is unusually clean and free from metals, adulterants, acids, or alkalies, and the fiber is as cleanly removed by the mechanical process as by any chemical process. Mr. Joseph F. McLean, president and manager of the company, has developed a large acquaintance with the rubber trade throughout the country, having been in the rubber business all his life, and he has brought to the reclaiming business a practical knowledge of how the product is used in the different branches of the rubber industry, and thus been aided in developing a standard of product for the Pequianoc company that is appreciated by the trade.

A RUBBER SUIT DISMISSED.

THE bill in equity brought by Charles R. Flint, of New York, against the Boston Woven Hose and Rubber Co. *et. al.* of Boston, to enforce against Theodore A. Dodge and others, as president and directors of that company, the liability imposed by

the Massachusetts revised laws, Chapter CX, section 58, to pay an unsatisfied judgment of \$22,503 held by the plaintiff against the corporation, upon the ground that its debts exceeded its capital stock, was dismissed in the superior court at Boston on October 23, demurrers filed by the defendants having been sustained. The plaintiff, it is decided, cannot maintain his bill because it did not appear that the excess of the corporation's debts over its capital stock was on Sept. 30, 1899, when he began his suit, in which he got judgment, as the statute requires. He alleged that, on June 16, 1898, when the company made an assignment for the benefit of its creditors, its direct liabilities were \$1,160,000, and its indirect liabilities were \$350,000, while its capital stock was only \$900,000. Subsequently, by the payment of dividends by the assignees to those creditors who assented to it, the company's debts, he alleged, had become reduced to less than the amount of the capital stock.

NEW INCORPORATIONS.

INTERNATIONAL Rubber Manufacturing Co. (Jersey City, N. J.), September 29, under New Jersey laws, to manufacture mechanical rubber goods; capital, \$100,000. Incorporators: Berthold Loewenthal, Edward D. Loewenthal, Wesley T. Snowden. Further details are given in another column.

=The Lyon Rubber Co. (Akron, Ohio), October 1, under Delaware laws; capital, \$10,000. This company has been engaged, for some months past, in the manufacture of rubber gloves, nipples, ice bags, and the like.

=Hanover Rubber Co., October 15, under New York laws; capital, \$4000. Incorporators: Thomas F. Stevenson and T. S. Corey, of Brooklyn, and G. R. Shepard, of New York. The object is the proofing of cloth for the mackintosh trade, and machinery is now being secured for a plant to be erected in Brooklyn. The new company hope to be able to handle wider goods than any now on the market.

=Superior Rubber and Manufacturing Co., October 21, under New Jersey laws; capital, \$150,000. Incorporators: C. V. Childs, S. Bloomfield, and H. N. Smith. Registered office: No. 525 Main street, East Orange, New Jersey. The company will manufacture rubber sundries and molded goods at Cuyahoga Falls, near Akron, Ohio, and several Akron parties are interested.

=THE INDIA RUBBER WORLD has a letter from Chicago stating: "Noting the item in your number of October 1, in which it is stated, referring to the incorporation of the Empire Rubber Manufacturing Co., Chicago, under the Illinois laws, that such company was to cover the business in Illinois of the New Jersey corporation of the same name, I will ask you to please correct said statement. The Illinois company has no connection whatever with the New Jersey company." An inquiry for more details regarding the new company brought the response: "The incorporators of the Empire Rubber Manufacturing Co. do not care to give out any information regarding their business. A little later on they will be pleased to accede to your request."

TRADE NEWS NOTES.

THE Single Tube Automobile and Bicycle Tire Co. are proceeding against the Lake Shore Rubber Co. (Erie, Pennsylvania) for infringement of the Tillinghast tire patent. Their bill of complaint was filed July 30 last, in the United States circuit court for the western district of Pennsylvania.

=C. C. Sigler, formerly a rubber manufacturer in Cleveland, Ohio, as Sipe & Sigler, making hard-rubber battery jars for the Willard storage battery, has entered the wholesale jewelry business at Akron. Mr. Sigler was formerly in this business before he took up the rubber manufacture. Several disastrous fires in the factory were the main cause of his leaving the latter.

=Legal proceedings have been instituted by the interests now in control of the Rubber Goods Manufacturing Co. against parties formerly in the company, or in constituent companies, to compel the latter to take up certain unmarketable securities which now figure in the assets of the Rubber Goods company. The securities are reported to be second mortgage bonds of the Park Row Syndicate building, in New York, amounting to \$900,000. While interest has been paid regularly on these bonds, there has been no market in which they could be sold at par. The opinion has been expressed in the trade that these bonds will be taken out of the hands of the company without the proposed suits being brought to trial.

=The Pure Gum Specialty Co. (Barberton, Ohio) are forging ahead and are expanding at a very gratifying rate. They have recently added new machinery and new boilers, and more improvements and additions are being planned. They have a fine trade in some of their patented specialties, besides their regular line of standard dipped goods.

=The coal strike did not inconvenience the rubber factories at Akron, as most of them had a pretty good supply. A prominent manufacturer said one day that he had on hand a supply for 30 days, and as the railroads had only about the same he was not worrying over the strike, for if the roads could not haul the goods there would be no object in making them.

=The Excelsior Hard Rubber Co. (Mineral City, Ohio) have started their factory and are now in full swing. They are making a high grade line of specialties and are doing very nicely. They employ about 25 people and expect to increase their force shortly.

=S. G. Rigdon, manager of the tire department at the Good-year Tire and Rubber Co. (Akron, Ohio), has resigned and accepted a position with the International Wheel, Tire and Rubber Co. William Dean, manager of the Chicago office of the Goodyear company, has taken his place.

=Edward H. Garcin, vice president of the Trenton Rubber Manufacturing Co., and his associates, have purchased for \$270,100 in cash the shares of the Pennsylvania Furnace Co. of Philadelphia. At the annual meeting, on October 14, the treasurer's report stated that the furnace output for the year had been 76,263 tons and the net profit \$3877.

=Hamilton M. Lockwood, formerly of the Stoughton Rubber Co., has accepted a position with the Clifton Manufacturing Co., of Boston.

=The National India Rubber Co. (Bristol, Rhode Island) are reported, in view of the scarcity and high price of fuel, to have furnished to their employes 400 tons of bituminous coal at cost.

=The Pneumatic Mattress and Cushion Co. (New York), have a very notable exhibit of their goods at the fair now being held at the buildings of the Charitable Mechanics Association in Boston. This exhibit is probably the most complete that has ever been given of pneumatic cushions, embracing the finished cushions and beds of all types, and has something to attract the interest of the passer-by. Skilled workmen are shown making up the goods preparatory to vulcanization.

=The Apsley Rubber Co. (Hudson, Massachusetts) are manufacturing three grades of rubber footwear this season—the "Apsley," "Hudson," and "Middlesex" lines.

=The Mount Vernon and Woodbury Cotton Duck Co. have closed the Greenwoods mills, at New Hartford, Connecticut, and the machinery is being moved South. A few months ago 700 employes were at work in the mills.

=W. C. Coleman, of Boston, reports a transaction in high grade miscellaneous rubber scrap, amounting to between \$24,000 and \$25,000, deliveries to be made to an Eastern mill in weekly shipments for the next three months.

=The partnership between Lewis S. Hoyt and Benjamin E. Phillips, Jr., under the firm name of Hoyt Rubber Co., at No. 280 Dover street, Boston, was dissolved on October 17. The accounts of the firm will be settled by Mr. Phillips, who will continue the business at the same address.

=The electric department of the Brookline Gas Light Co. (Allston, Massachusetts) has placed an order for a 250 H. P. boiler with the Hazelton Boiler Co. (Rutherford, New Jersey.) This makes a total of 1000 H. P. at this plant. A 400 H. P. Hazelton boiler has been ordered by the Apsley Rubber Co. (Hudson, Massachusetts.)

=The Bowers Rubber Co. (San Francisco, California), make a type of hose they call "Sun Proof." The cover of the hose is of a special compound of a bright orange hue, and it has the faculty of resisting sunlight so that the hose lasts wonderfully well. The company are having a large and increasing sale in it.

=The business of manufacturing bleaching, dyeing, drying, printing and finishing machinery, heretofore conducted by the separate firms of the Granger Foundry and Machine Co., The Thomas Phillips Co., of Providence, Rhode Island, and The Rusden Machine Co., of Warren, Rhode Island, will, after October 1, 1902, be conducted by The Textile-Finishing Machinery Co., of Providence, which company has purchased all the interests in the above lines, including patterns, patents, tools, good will, etc., formerly possessed by these concerns.

=Since 1895 every foot of fire hose used by the fire department of the city of San Francisco, California, has been manufactured by the Bowers Rubber Co., of that city. It speaks well for the life of the goods when one notes that in all that time not one length has failed during service.

=The office of The Fossil Flour Co. has been returned to New York, at the former location, No. 229 Pearl street, where orders and remittances should be sent to insure prompt attention.

=The Bowers Rubber Co. (San Francisco, California) have opened a distributing depot for their goods at No. 44 South Clinton street, Chicago. The Chicago business will be in charge of S. M. Engs.

=It is reported that the British patents for Bailey's "Good Samaritan" hot water bottles have been acquired by the Charles Macintosh & Co., Limited, of Manchester, England. The Canadian patents have been acquired by Leeming, Miles & Co., of Montreal.

=The New York *Commercial* has an article on the completion of the Granby Consolidated Power and Smelting Co., at Grand Forks, British Columbia. It says that the output of the Granby mines now aggregates about 532,000 tons of ore, all of which has been treated at the company's own smelting works. This company, by the way, is controlled by Mr. S. H. C. Miner, president of the Granby Rubber Co., at Granby, Quebec.

=A dividend of 1 per cent. on the common stock of the American Chiclé Co. has been declared, payable November 10.

=William T. Baird, for twenty-nine years connected with the New York Belting and Packing Co., Limited, and for several years past treasurer of the company, will probably leave that position to become connected in an important way with the Rubber Trading Co. of New York, which, incorporated last March to buy and sell crude rubber, has already made for itself an important position in the rubber trade.

=A new company in which two Akron men are leading spirits is about to be organized to manufacture rubber dipped goods at Massillon, Ohio.

=The Chicago branch of the Empire Rubber Manufacturing Co. (Trenton, N. J.) has been removed to No. 20 La Salle street, and Mr. Walter F. Taylor placed in charge.

=The Miller Rubber Manufacturing Co. (Akron, Ohio) recently bought a considerable block of real estate adjoining their factory, but it is understood that no addition to their plant is under consideration at this time, they having just completed a large addition.

=The Trenton Rubber Manufacturing Co. and John R. Kuser, have made application for a receiver for the Munger Automobile Tire Co., (Trenton, New Jersey) the application being returnable on November 5. If this is granted the company undoubtedly will be reorganized.

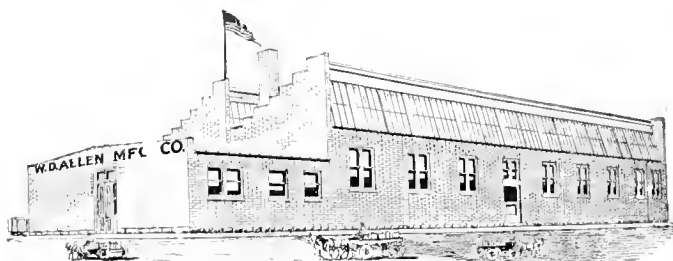
=The Safety Sectional Pneumatic Tire Co., of Binghamton, New York, has been incorporated, with \$500,000 capital, of which \$200,000 is reported to have been subscribed, to make a tire invented by a Mr. Miller.

NEW ENGLAND RUBBER CLUB.

THE circular that announces the next dinner of the New England Rubber Club is in the form of an old-fashioned "Thanksgiving Proclamation" written in the English of one hundred years ago, and citing "Ye members of ye New Englande Rubber Clubbe to appear at ye goodly house of entertainment, known as ye Exchange Clubbe, on ye evenynge of ye 20th of Novembre as ye town clock strykes six." The proclamation promises addresses by "worthie citizens, myrth producing stories, musick, and much entertaynement."

THE W. D. ALLEN CO.'S NEW FOUNDRY.

OWING to the large increase in the volume of their business during the past three years, and also their desire to keep abreast of the times both as regards output and methods of manufacture, The W. D. Allen Manufacturing Co. (Chicago) decided last year to build a foundry that would be fully capable of taking care of their greatly expanded business, and, at the



same time, fortify them against future needs. Commensurate with this resolve is the new structure shown in the illustration which is conceded to be the best equipped brass foundry in the West, if not in the United States, neither pains nor expense having been spared to add to the efficiency of the plant and the comfort of the employes. The building is of substantial stone and brick construction and is equipped with the saw tooth roof, which affords an abundance of light and is of great assistance to the employes. With its new equipment the company will be in a position to cope with any demand, and they hope that they may not again be placed in the embarrassing position of refusing to accept orders, as happened during the past season owing to limited capacity.

WORK OF THE RUBBER STEALINGS COMMITTEE.

FOR a year past the Committee named above have been working quietly on projects for the suppression of the stealing of crude rubber, which is more prevalent in the United States than most manufacturers may believe. As a result of their work a large amount of material has been collected. The Committee have also conclusive evidence of the existence of organized rings, and have discovered as well the middlemen or "fences" through whom the stolen rubber is marketed. The Committee are not disposed to take the public into their con-

fidence, but it is understood that an even more vigorous campaign against the rubber thieves will be inaugurated very soon.

AMERICAN GOLF BALLS TO BE MADE ABROAD.

THE various reports which have got into print in relation to the manufacture of golf balls in Great Britain under American auspices evidently had their basis in the fact that the St. Mungo Manufacturing Co., of Glasgow, Scotland, have entered into a contract with the owners of the Kempshall golf ball patents to manufacture these balls in Great Britain. It is reported that the Kempshall company sent several people over as the nucleus for a working staff at Glasgow, and from another source it is learned that balls manufactured at Glasgow are expected to be on the market by December 1. As soon as the new product is offered for sale, a suit will doubtless be brought for infringement against the British patents on the Haskell ball. The Kempshall Manufacturing Co. (New York), asked about their foreign enterprise, referred the inquirer to their London offices.

MILWAUKEE TO HAVE A RUBBER FACTORY.

ARTICLES of incorporation of the Milwaukee Rubber Works, with \$200,000 capital, were filed on October 11 under the laws of Wisconsin, with the purpose of manufacturing a general line of mechanical rubber goods. A tract of 10 acres has been secured as a site, and buildings will be erected on special designs.

NEW RUBBER FACTORY IN NEW YORK STATE.

ON October 10 work was begun on the construction of the factory of the Sweet Tire and Rubber Co. (Batavia, New York), the incorporation of which was mentioned in THE INDIA RUBBER WORLD of September 1 (page 400). The board of trade raised \$1800 to buy a site. Orders for the Sweet vehicle tire have been received in encouraging numbers, and the company hope to be making them by New Year.

PERSONAL MENTION.

MR. FREDERIC C. SAYLES, of Providence, Rhode Island, a director of the United States Rubber Co., and largely interested in the woolen industry, has presented to the town of Pawtucket, at a cost of \$250,000, a library to be known as the Deborah Cook Sayles Memorial Free Public Library.

=Mr. P. A. Birley, of the great firm of Charles Macintosh & Co., Limited (Manchester, England), arrived in the United States on the *Saxonia* on October 27. Mr. Birley expects to spend about a month in the States and will visit many of the prominent rubber manufacturers while here.

=Mr. George W. Sherman, of the North Western Rubber Co., Limited, of Liverpool, and formerly with the Diamond Rubber Co., is expected to arrive at Akron early in November, when his marriage to Miss Crumrine will take place.

=Mr. Walter A. T. Norris, secretary to the Hon. E. S. Converse, president of the Boston Rubber Shoe Co., and Miss Winifred Ricker, of Melrose, Massachusetts, were married on the evening of October 7, and will make their residence in Melrose. The office force of the Boston Rubber Shoe Co. joined in making a handsome wedding present.

* * *

RECEIVERS have been appointed for the Atlantic Coast Lumber Co. and the Export Lumber Co. of America, as a step preliminary to their reorganization. They were organized several years ago by Charles R. Flint and his associates for the purpose of developing the lumber industry in the Virginias and the Carolinas. Mr. Flint and Wallace B. Flint, his brother, resigned as officers and directors of the Export Lumber Co. in January last, but Charles R. is mentioned as being a shareholder at this time.

THE RUBBER TRADE AT AKRON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There have been no important developments the past few weeks in the union labor situation with reference to the Akron rubber factories. The Rubber Workers' Union has been quietly at work, however, and claims to have made accessions to its membership which now puts the total in the neighborhood of 500. The union claims that its members are still discriminated against and discharged upon slight pretexts by both the Goodrich and Diamond companies, and that they are unable, too, to obtain employment in other local factories if the fact of their being members of the union is known. All of these charges the manufacturers insistently deny. Little is heard of the matter in public, and the only outward demonstration of the existence of the union has been a dance, for the purpose of raising funds on October 17, for which 500 tickets were sold. The Central Labor Union has taken up the cause of the rubber workers and declares that the Goodrich and Diamond companies will be widely advertised as "unfair." Samuel Gompers, president of the American Federation of Labor, has also been appealed to.

The rubber manufacturers say that they have no cause for uneasiness in the union matter, and that the flurry of September, when the alleged differences were made the subject of newspaper articles, is a closed incident. The factories are all busy and, to all appearances, the workmen are for the most part glad that the likelihood of an open rupture with the employers has passed. The Central Labor Union has declared that manufacturers have sought to avoid difficulties by quietly advancing wages. Of this a leading employer said:

"We have advanced wages no more than usual. There are constant changes in the payroll. As men grow in ability their wages are increased. We deal with the individual in this matter."

In this last sentence the general attitude of the manufacturers seems to be embodied. They want to be able to discriminate between the good, steady workman and the careless or indifferent class. They insist that in the rubber business no roomful of men can be put on an entirely equal footing, and in fairness to the men and themselves no entirely uniform scale of wages could be made. One man becomes so skilled that in his hands no goods are spoiled. Another will ruin or injure work in the process of manufacture, frequently.

* * *

THE present condition of the solid vehicle tire business is regarded as critical by many rubber manufacturers and presents a subject of deep interest. At least two-thirds of the solid tires used in the United States are manufactured in Akron. Four of the manufacturers confine their business almost exclusively to this line, while with others it constitutes an important department.

When the Rubber Tire Wheel Co., of Springfield, Ohio, now the Consolidated Rubber Tire Co., of New York, first put solid tires on the market, they came to Akron to have them manufactured, and, for years The B. F. Goodrich Co. were the exclusive makers. The product made Akron famous for solid rubber tires. Other manufacturers took up the work and the business spread. New concerns started up and rubber manufacturers already established added this to their line of products. The royalty exacted by the Consolidated Rubber Tire Co., under the Grant patent, made it possible for others to furnish tires at a lower cost and still maintain a good standard of quality.

On May 6, 1902, the United States circuit court of appeals, at Cincinnati, handed down a decision declaring the Grant patent void. Had the decision been otherwise, infringing manufacturers would have been liable for heavy damages; hence there was great rejoicing and a general feeling of relief. Now that the situation has had time to crystalize, the full force of open competition is being felt. Prices have been gradually coming down, and, before the recent conventions of carriage makers, had reached a point below which they could not go without either sacrificing all the profit or deteriorating the quality. At these conventions it was demonstrated that the carriage makers are the arbiters of the situation. They make the price, and it only remains for the tire manufacturers to furnish the goods that fit. At the present time carriage makers are at a disadvantage because they have not yet had an opportunity to discover the "psychological point" at which quality ends and prices commence.

There are clearly two courses open to manufacturers of solid tires, neither of which is very satisfactory. To keep up the standard of quality means a comparatively high selling price, and necessarily a serious curtailment of business for the present, at least. On the other hand, to meet the present low prices will compel manufacturers to furnish very much poorer tires, which cannot help but prove a disappointment both to seller and buyer. As a natural result the tire manufacturers who adopt this course will suffer for a condition created by the carriage manufacturers in their attempt to buy tires at a price which will not secure the quality to which they have been accustomed and which they expect to receive. One of the causes of the present condition may be found in the fact that the present facilities for manufacturing solid rubber tires are at least four times as great as the consumption. According to a leading Akron manufacturer the business now offers no inducement to capital and we may expect soon to see an end to the organization of new companies to make solid rubber vehicle tires.

Akron rubber manufacturers are making plans for liberal representation at the motor vehicle and carriage shows the coming season.

* * *

At the annual meeting of the Diamond Rubber Co. on October 14, all directors and officers were reelected. The latter are: W. B. Hardy, president; A. H. Marks, vice president and superintendent; W. B. Miller, secretary; A. H. Noah, treasurer. The business of the company, it is understood, has been most satisfactory the past year, both here and abroad.

The Combination Tire Co., lately incorporated under New York laws, completed their organization here on October 13. The officers are: Thomas Clark, of New York, president; W. R. Harris, of Akron, vice president; W. B. Tuttle, of Akron, secretary and treasurer. Mr. Harris is the inventor of the tire to be manufactured. This tire is fastened to the rim by means of "T's" and transverse wires, doing away with the channel iron. The company will make their rubber goods, having leased a brick building at Main street and Buchtel avenue. The stockholders, with the exception of President Clark, are Akron men. Secretary Tuttle has heretofore been with Taplin, Rice & Co., who manufacture rubber machinery, and Vice President Harris has been with The B. F. Goodrich Co.

The plant of The India Rubber Co. was shut down three days early in October to permit of repairs and alterations. This was the first time that an Akron rubber factory had been closed, except for holidays and Sundays, for more than two years. The India Rubber Co. are now working night and day.

Although a number of rubber men were aspirants for the championship of the Portage Golf Club this season, the hand-

some cup offered by Mr. R. P. Marvin and the championship as well, again go outside the rubber business, E. E. Andrews, secretary of the Akron Electrical Manufacturing Co., winning the distinction and prize. Mr. Andrews and Secretary Charles W. Seiberling, of the Goodyear Tire and Rubber Co., spent the latter part of October hunting in northern Michigan.

A. G. Lyon, A. D. Logan, and J. T. Diehm, of Akron, are the active men in the Lyon Rubber Co., lately converted from a partnership into a corporation, and which evidently is building up a prosperous business. Mr. Diehm is president, Mr. Lyon vice president, and Mr. Logan secretary and treasurer.

Mr. James A. Swinehart, vice president of the Firestone Tire and Rubber Co., sailed from New York on October 7 to visit France, in the interest of the Colonial Tire and Rubber Co., who control the Swinehart tire patents in continental Europe. He was accompanied by Mr. P. D. Hall, of the Colonial company.

Letters from Mr. H. C. Corson, formerly vice president of the B. F. Goodrich Co. and still a member of their advisory board, state that he and Mrs. Corson will spend the winter near Cape Breton, Nova Scotia. Mr. Corson has built for the people about his house there a handsome chapel.

President O. C. Barber, of the Diamond Match Co., is interested in the North Western Rubber Co., Limited, of Liverpool, England, which is pushing the Diamond Rubber Co. of Glasgow, Scotland, mentioned in the October INDIA RUBBER WORLD. Mr. Barber, who recently returned from Europe, says that the American rubber trade is extending to all European countries. The North Western company are largely controlled by stockholders of the Diamond Rubber Co. of Akron.

Rabbi Isador Philo, of the Reformed Hebrew congregation of Akron, is an honorary member of the rubber workers' union and attends the meetings regularly. The union have promised to nominate him for mayor next spring and there is some talk that the local labor unions will combine to support him as an independent candidate for that office.

Mr. Harry K. Raymond, a department manager of The B. F. Goodrich Co., and Miss Gertrude Mason, daughter of F. H. Mason, general manager of the works of the Goodrich company, will be married in the First Congregational church on November 5. A handsome home is being remodeled for them at Union and Forge streets.

Colonel George T. Perkins, president of The B. F. Goodrich Co., was elected president of the Reunion Association of the 105th Ohio Volunteer Infantry regiment at its meeting in Chardon, Ohio, October 17. Colonel Perkins has held this position for years, the veterans having great pride in him.

The engagement is announced of Mr. Francis R. Peabody, superintendent of the South Akron factory of The Diamond Rubber Co., and Miss Ethel Wright, of Akron.

The Canton Rubber Co., at Canton, Ohio, whose management is largely in the hands of former Akron men, is reported to be doing an excellent business in dipped goods.

THE RUBBER TRADE AT TRENTON.

BY OUR RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Three local rubber manufacturing companies have increased the wages of their employes 5 per cent. On September 30 the United and Globe Rubber Manufacturing Cos. announced a general increase of 5 per cent. to take effect from September 26. On October 8 the Whitehead Brothers Rubber Co. posted a notice in its mill of a similar advance, to take effect from October 3. On October 18 a general increase of 5 per cent. was announced

by the Empire Rubber Manufacturing Co. In each instance the increase was voluntary and gave much satisfaction to the employes.

Some of the mill hands claim that the advance will extend to all the local mills soon, and that the voluntary raise is a diplomatic move on the part of the manufacturers to prevent any defection in the ranks of their employes when the completion of the new Eureka mill will make a sudden and unusual demand for rubber workers.

The Empire Rubber Manufacturing Co. are building two additions to their plant—a one-story brick structure 70 × 50 feet, and a two-story brick building 100 × 50 feet—to increase the capacity of the rubber carriage cloth department.

The United and Globe Rubber Manufacturing Cos. are making further improvements at their mills. A steam heating plant is being installed in the new office building, to supply which a new 500 H. P. horizontal return tubular boiler has been put in. A new dust house has been built, 80 feet from the factory, into which all dirt and refuse from the old rubber is blown by steam fans through 12 inch pipes. A new hydraulic pump capable of producing 3000 pounds pressure, and seven De Laski looms for cotton hose have been installed.

Frank W. Thurman, New York manager for the Crescent Belting and Packing Co., has opened a retail rubber store at No. 7 South Warren street, this city. It is attractively fitted up and is well stocked with all kinds of wearing apparel, druggists' sundries, and mechanical goods. It is the only exclusive rubber store in this city. During Mr. Thurman's absence in the metropolis Mrs. Thurman attends to the business.

The officials of the new Union Rubber Co. are now fully established in elegantly appointed offices in the Broad Street National Bank building. The company are busy getting out samples.

Further improvements are being made at the factory of the Home Rubber Co. Two new return tubular boilers of 130 H.P. each have been installed, and the boiler and engine room is being enlarged and partially reconstructed. When completed it will measure 40 × 40 feet. The boilers were built by the John E. Thropp & Sons Co., of this city.

The Modern Rubber Manufacturing Co. are erecting a new factory to replace the one destroyed by fire in September. The main building will be a one story frame structure 60 × 30 feet; the engine room 25 × 38 feet, and the new reclaiming building 24 × 30 feet. The engine and boiler were not seriously damaged by the fire and will be used for operating the new plant. The company expect to be running by December 1. Enough orders have been booked to keep the mill running for six months. Since the fire, through the courtesy of the Whitehead Brothers Rubber Co. in allowing the use of factory facilities, the Modern company have been able to fill their more pressing orders.

The Trenton Rubber Manufacturing Co.'s "Black Bear" packing, first put upon the market last spring, has proved a splendid seller, giving satisfaction to steam fitters and engineers generally.

The Farrier Hoof Pad Co. organized lately to manufacture a new rubber hoof pad, has met with such success in selling this article that work has to be pushed night and day to fill orders.

In the Mercer court, on October 20, Justice Mahlon Pitney suspended sentence upon Thomas Edward Taylor, aged 18, who had been convicted of manslaughter on the charge of killing Edward Hyde, another youth, while they were working together in the factory of the Trenton Rubber Manufacturing Co. Taylor will be on probation for an indefinite period, and his light sentence is due to mitigating circumstances.

ARTISTIC CABINETS OF HARD RUBBER.

THERE are in bonded warehouses in New York to-day, two cases containing samples of art work, of which hard rubber is a part, that undoubtedly point to a line of work that will some day be quite a factor in the rubber manufacture. A French artist is the creator of these, and the inventor of the vulcanite finish. These goods are samples of mural decorations, statuettes, busts, beautifully carved panels for cabinets, etc. They are made from terra cotta, *papier mache*, and cheap materials of various kind, over which by a secret process is put a very thin coating of hard rubber in any color, giving most



beautiful and durable effects. The rubber coating being very thin, there is of course very little addition to the cost, and a great increase in both the durability and beauty. The samples embrace several doors from the beautiful cabinet shown in the above illustration, and have all the effect of black oak. Of the busts shown on the top of this cabinet, the one in the middle is made by the new process. These goods are in the charge of Mr. Reuben Allerton, of New York, who imported them as samples of a new art, and who plans to arrange for their manufacture in the United States.

FIRE HOSE STATISTICS OF CITIES.

AMONG the numerous subjects on which statistics are compiled by the United States department of labor, at Washington, is the comprehensive one of "Statistics of Cities," embracing almost no end of particulars. For several years past these statistics have included the details relating to the amount of hose and other fire department equipment in cities having 30,000 population or more. The number of cities embraced in this table is not the same every year, for the reason that before the last census some cities which were supposed to have 30,000 inhabitants were found later not to have. But this fact is not important, since the total amount of hose cred-

ited to the cities in doubt does not aggregate 100,000 feet. The total number of feet reported is as follows:

January 1, 1899.....	140 cities.	3,361,160 feet.
January 1, 1900.....	129 cities.	3,176,902 feet.
January 1, 1901.....	135 cities.	3,413,011 feet.
January 1, 1902.....	137 cities.	3,451,881 feet.

No particulars are given as to the basis of estimating the amount of rubber hose for each fire department. For instance, in one case may be reported the number of feet of hose "owned" by the city and in another the amount of hose "in service." But whatever the basis of reporting, there is hardly any doubt that in the cities of the class referred to there is something over 3,000,000 feet of fire hose. There is likewise a very large amount of fire hose owned by cities and towns having less than 30,000 population, so that it may not be an extravagant estimate to give 5,000,000 or 6,000,000 as the total of fire hose in use in the United States. This estimate would call for at least 1,000,000 feet of new hose for replacements every year, without reference to the increase of equipment in many departments.

Headquarters, Fire Department City of New York,
Chief of Department.
BOROUGH OF MANHATTAN, October 1, 1902.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your favor which has been referred to me for report, I would state that the average life of fire hose in use in this department is from 5 to 6 years.

Yours respectfully,

EDWARD F. CROKER,
Chief of Department.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The question has been propounded to me: "If a particular city has 100,000 feet of hose of all kinds in use to-day, about what would be the annual replacements necessary to keep the equipment up to this size?" Such a question can be more readily answered by a comparison of fire department statistics that state the average amount of hose pur-

chased per annum, and the aggregate amount in service, than from the experience of a fire hose manufacturer.

There are so many conditions that affect the durability of fire hose, even if the all important consideration of quality be ignored, that it is difficult to establish an average for replacements, unless a careful study of the statistics referred to may permit it to be done.

For instance, an equipment of 100,000 feet may be ample to require but a reasonable service and afford a sufficient reserve; or it may be so inadequate that the service of the hose is much more frequent and severe. One department may give the hose better care than another, may better protect from injury from vehicular traffic while in the streets, may use it chiefly on smooth pavements. One department may have to protect a city largely residential, while another may have the protection of a manufacturing or commercial community where fires are likely to be larger and more frequent, and the liability of hose to come into contact with chemical and other injurious substances greatly increased.

If two departments whose hose needs are about equal, should expend an equal sum of money annually in the purchase of fire hose for say a period of twelve years, and each should use the hose until destroyed while in service, the one to purchase high grade hose and the other a low grade, it is probable that at the

end of the period named, the department purchasing the better grade will have a greater number of feet of reliable hose in service, and will during the period have had a more effective service by reason of less bursting of hose while in fire service, than the department that purchased a greater number of feet of poorer hose.

EUREKA FIRE HOSE CO.,

Jersey City, N. J., October 16, 1902.

B. L. STOWE, Vice President.

THE TEXTILE GOODS MARKET.

OCTOBER marked the beginning of new yearly relations between the rubber and textile industries in this country. As stated in the last INDIA RUBBER WORLD, manufacturers of rubber goods were placing their annual contracts for cotton duck, and in nearly every instance these new engagements had been for supplies at fully 25 per cent. increase over those for the previous year. It was observed at that time, however, that certain manufacturers did not entertain the same confidence in the high level of prices which the United States Cotton Duck Corporation was asking, and refused to renew their contracts on the basis suggested. Since then these manufacturers have been in the market again, and have endeavored to make better terms, but, so far as can be ascertained, without success. Although the government report of the raw cotton crop for October was anything but encouraging to such an argument, these buyers clung tenaciously to the idea that cotton would decline and that ducks would be compelled to follow. Their views have proved to be true in a measure, for since then raw cotton has been easing off somewhat and is to-day quoted at 8.70 cents against 9 cents a month ago.

Textile manufacturers, however, hold to the argument that finished cloth will show no depreciation for many months to come, and, occupying a rather independent position, stand firmly for prices. Such rubber manufacturers as do not agree with them declare that they will pursue a hand-to-mouth policy throughout the year before they will renew their contracts upon the basis proposed by the Cotton Duck trust. One concern, in particular, placed an order last week for several hundred rolls which they calculated would carry them over to the new year, but the price paid for the goods was 3½ cents a pound more than they would have been compelled to pay had they made a yearly contract. This concern has now decided to try the experiment of buying from hand-to-mouth, according to their requirements, entertaining some doubt about the alleged advantage in making a yearly contract even at lower prices. In the latter case it is said that the consumer is asked to comply with certain requirements which in a year make his goods cost him as much as though he had bought in small quantities at a higher figure.

The manufacturers of stitched belting have been in the market during the past month and have bought quite freely of the heavier grades of duck. This branch of the trade is competing with the rubber belt manufacturers for the belting trade, and have become a very formidable patron of the cotton duck manufacturers. They consume a very heavy weight duck, and, although they do not all make yearly engagements, are allowed special rates on their purchases.

Many of the manufacturers of rubber boots and shoes have been making inquiry during the past month concerning the condition of brown sheetings and osnaburgs, preparatory to placing their orders for linings. Some have already bought quite heavily, although they would have increased their orders had they not hoped to see the price of cotton sheetings decline in the near future. Prices have not advanced since October 1; current rates are held firmly at the following basis per yard:

Forty inch, 2 50.....	6¾ cents.
Forty inch, 2.70	6 cents.
Forty inch, 2.85	5½ cents.
Forty inch, 3.60.....	4¾ cents.
Thirty-six inch, 3-yard.....	5¼ cents.

The indifference of sellers to doing business on this basis has caused some rubber manufacturers to interpret their action as meaning that advances are contemplated, but there is nothing certain about this. If such a purpose was harbored a month ago it has evidently been dispelled, for nothing has been heard of it lately. In fact the demand from other sources at this time is not of the character to warrant manufacturers in asking more money for their products.

Manufacturers of felts are reporting a largely increased demand for felts of all weights. Manufacturers of overs for the western trade have been placing large orders for felt boots. The lighter weight felts commonly used for lining boots and shoes is in better demand than ever. Like the United States Cotton Duck Corporation, the manufacturers of felts are averse to making prices public, claiming that there is no open market for felts and all purchases are made at private terms.

* * *

THE United States Cotton Duck Corporation is quoting 8-ounce 40 inch flat duck, single filling, at 8 cents, and 10-ounce 40 inch, 10 cents.—Forty-inch, 2 50, 48 × 48 duck for hose is selling at 6¾ cents at the present time, although an upward tendency is beginning to manifest itself.—Forty-inch, 3.60, 56 × 60 picking duck is being quoted at 5 cents, and forty-inch, 3.60, 48 × 48, at 4¾ cents.—Spinners of cotton duck yarns are reported to be well situated so far as orders are concerned, and prices are held firmly on the basis which has ruled the market for some time in the past. Yarns from 12s. to 14s. are held at 16 cents.

RUBBER SCRAP PRICES.

THERE is no change to report since the last issue of THE INDIA RUBBER WORLD. The following are New York quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic ..	7¾ @ 7¾
Do — Foreign.....	6½ @ 6¾
Pneumatic Bicycle Tires.....	6
Solid Rubber Wagon and Carriage Tires.....	7
White Trimmed Rubber.....	9½ @ 9¾
Heavy Black Rubber	4¼
Air Brake Hose.....	2¾ @ 2¾
Fire and Large Hose.....	2½
Garden Hose	1½
Matting	1

OBITUARY.

HARRY S. PARMELEE, a wealthy manufacturer of New Haven, Connecticut, president of the Fair Haven and Westville Street Railway Co., and president of or director in several other corporations, died on September 27, while on a yacht *en route* for the Bermudas. He was a son of Stephen Thomas Parmelee, who went from a rubber shoe factory in New Brunswick, N. J., in 1857, after having been connected with The L. Candee & Co. (New Haven), to superintend the manufacture of rubber boots and shoes for the North British Rubber Co., Limited, of Edinburgh, Scotland. Stephen Parmelee returned to America in 1859. An elder son, Louis, died in the civil war, at the battle of Antietam. Harry Parmelee served through the civil war in the First Connecticut cavalry and lost an arm before Richmond. He is survived by a widow, two daughters, and a son, Henry F. Parmelee, a New Haven attorney.

REVIEW OF THE CRUDE RUBBER MARKET.

AFTER a month of fluctuation the crude rubber market closes firm, at an advance over the quotations in our last issue, with an apparent upward tendency. Manufacturers have been fair buyers. While the sales have not been of large amounts, the ordinary requirements make up a considerable aggregate. There is a growing tendency among manufacturers to divide their purchases throughout the year. Some large consumers decline to buy beyond a certain limit, no matter what inducement in the way of prices may offer. Then the practice of drying rubber for a long time, making it necessary for orders to be placed months ahead, is being abandoned. With rubber constantly reaching the market; with so many houses in position to supply rubber; with cable communication between all rubber centers; with the shorter term for drying rubber and manufacturers less disposed to be speculative purchasers—large buying orders, in the old sense, are becoming less and less general.

Receipts at Pará thus far are short. The outlook for the season is a matter of doubt, though smaller receipts throughout are generally predicted. The unsettled condition of the Acre district, in Bolivia, is likely to stop the export of rubber from that quarter—2000 or 3000 tons—for some time to come. In some other districts fewer boats and fewer supplies have gone out than last year, on account, as reported, of continued unfavorable trade conditions. This is not a certain basis for predictions, however; last season opened with calamity stories all along the Amazon, yet more rubber was marketed than ever before.

Reduced production of Pará's will not necessarily advance prices. Consumption remains large in the United States, but the rubber industry has ceased to expand at the same rate in Great Britain, and the depressing effect of recent business conditions in Germany has not yet been wholly overcome. A reduced consumption in Europe, therefore, offsetting a reduced output from the Amazon, would leave the situation of supply and demand unchanged. There is no prospect of larger production of rubber elsewhere. Smaller supplies are coming forward from many districts in Africa. Arrivals at Antwerp, though still large, were 698 tons smaller during the first nine months of this year than for the same period of 1901, and 556 tons smaller than for the first nine months of 1900. The failure of some of the Congo companies to make expected profits has checked the extension of rubber gathering, and some other companies have determined not to attempt to enlarge their output for a while, but rather to improve its quality.

The unusually large sales at Antwerp late in September were mostly for American account. Such liberal purchases, at advanced prices, with quotations for coarse Pará's still under what lately would have been called normal, indicate a healthy condition of demand in the United States and a lack of confidence that prices may be lower in the near future.

New York quotations on October 31 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	72 @73	Tongues.....	43 @44
Islands, fine, old.....	@	Sierra Leone, 1st quality	65 @66
Upriver, fine, new....	78 @79	Benguella.	49 @50
Upriver, fine, old....	81 @82	Cameroon ball.....	44 @45
Islands, coarse, new....	47 @48	Flake and lumps.....	32 @33
Islands, coarse, old..	@	Accra flake.....	17 @18
Upriver, coarse, new..	62 @63	Accra buttons.....	48 @49
Upriver, coarse, old..	@	Accra strips.....	51 @52
Caucho(Peruvian)sheet	52 @53	Lopori ball, prime....	66 @67
Caucho (Peruvian) ball	56 @57	Lopori strip, do . . .	59 @60

Madagascar, pinky.... @70

Madagascar, black @

EAST INDIAN.

Assam.....53 @54

Borneo.....33 @44

CENTRALS.

Esmeralda, sausage...54 @55

Guayaquil, strip.....52 @53

Nicaragua, scrap... .53 @54

Mangabeira, sheet....44 @45

Late Pará cables (October 29) quote:

	Per Kilo.		Per Kilo.
Islands, fine.	4\$450	Upriver, fine....	5\$300
Islands, coarse	2\$350	Upriver, coarse.....	3\$800

Exchange, 12½¢d.

Last Manáos advices (October 29):

Upriver, fine.....	5\$275	Upriver, coarse.	3\$275
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Exchange, 12½¢d.

NEW YORK RUBBER PRICES FOR SEPTEMBER (NEW RUBBER).

	1902.		1901.		1900.
Upriver, fine.....	74½¢@78	87	@91	99½¢@1.03	
Upriver, coarse	59 @62	65	@66	70 @72	
Islands, fine	71 @75	84	@85	95½¢@99	
Islands, coarse	46 @48	48	@50	55 @58	
Cametá, coarse	47 @50	50	@51	56 @57½	

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total 1902.	Total 1901.	Total 1900.
	Fine and Medium.	Coarse.			
Stocks, August 31	214	7 =	221	523	566
Arrivals, September.....	591	306 =	897	500	609
Aggregating.....	805	313 =	1118	1023	1175
Deliveries, September....	613	307 =	920	537	725
Stocks, September 30..	192	6 =	198	486	450

	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, August 31	97	190	255	1525	980	1200
Arrivals, September ..	1640	1850	1235	719	645	310
Aggregating.....	1737	2040	1490	2244	1625	1510
Deliveries, September..	1651	1790	1032	969	600	650
Stocks, Sept. 30..	86	250	458	1275	1025	860

	1902.	1901.	1900.
World's supply, September 30.....	2595	2797	2664
Pará receipts, July 1 to September 30.....	3962	4112	3188
Pará receipts of Caucho, same dates.....	368	253	242
Afloat from Pará to United States, Sept. 30..	420	408	270
Afloat from Pará to Europe, September 30...	616	628	240

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: While the Hamburg rubber market as a whole has not shown any marked improvement of late, there has been a firmer situation with regard to middle sorts, in spite of the fluctuating prices for Pará's. A more lively condition has asserted itself in our market for Africans, caused principally by brisk inquiries for future delivery from the United States. There has also been evident an increased inclination to buy, not only in Germany but on the rest of the continent. During the past week there has been a demand particularly for Mozambique balls and thimbles, red Massai, Gambia niggers, Batanga and Kamerun balls, Peruvian, and Santos and Bahia sheets. The sorts neglected have been Accra balls, Adeli balls, red and black thimbles, Matto Grosso, and West India scrap and strip. The following prices have been paid—in marks per kilogram:

Pará fine, hard cure, November delivery	7.25@7.3c
Pará medium, hard cure, November delivery	7 05@7 10
Manáos Negroheads, November delivery.....	7.75@5.80
Mozambique ball, "Donde," finest.....	6.75@6.80

Mozambique ball, "Mahenge," finest.....	6.55@ 6 60
Do "Mohorro,".....	6.45@ 6.50
Do Do fine red.....	5.90@ 5 95
Do "Nyassa," finest.....	5.95@ 6.00
Do Do good.....	5.80@ 5.90
Mozambique spindles, fine, freed from wood.....	6.10@ 6.15
Massai niggers.....	6.00@ 6.10
G. D. bian niggers.....	4.90@ 4.95
Batanga balls, small.....	4.15@ 4.17
Santos sheets.....	4.80@ 4.85
Bahia sheets.....	3.75@ 3.80
Pernambuco, Mangabeira.....	3.55@ 3 60

Hamburg, October 18, 1902.

London.

EDWARD TILL & Co., under date of October 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	128	134	219
{ Assam and Rangoon.....	12	87	33
{ Other sorts.....	361	481	617
Total.....	501	702	869
LIVERPOOL { Pará.....	1273	1024	866
{ Other sorts.....	690	1076	1111
Total, United Kingdom.....	2464	2802	2846
Total, August 1.....	3053	2944	3045
Total, July 1.....	3595	3128	3653
Total, June 1.....	3637	3502	3624
Total, May 1.....	3788	3597	3952
Total, April 1.....	3326	3522	3104

PRICES PAID DURING SEPTEMBER.

	1902.	1901.	1900.
Pará fine.....	3/1½ @ 3/4	3/7 @ 3/9½	4/1 @ 4/4½
Negroheads, scrappy.....	2/7	2/8 @ 2/9	2/11 @ 3/0½
Do Islands.....	1/11½	2/0½	2/4
Bolivian.....	3/1½ @ 3/4	3/9	4/2½ @ 4

OCTOBER 17.—Pará market firm and small sales of fine hard at 3s. 2½d. for new; 3s. 3d. for old. Nearest value soft cure 3s. ½d.; negroheads 1s. 11½d.; Cameté 2s. Scrappy scarce, 2s. 7½d. Peruvians steady—2s. 6½d. for ball; 2s. 7½d. for sausage; and 2s. 2½d. for slab. Mollendo held for 3s. 1½d. Bolivian, 3s. 3d. buyers.—At auction to-day 34 packages Ceylon (from Pará seed) offered and sold. Fine clean, 3s. 10d. @ 3s. 10¾d.; fair scrap, 2s. 3d. @ 2s. 4d.; fair lump, 2s. 7d.; heated ditto, 2s. 2¼d. —Mozambique.—The good supply of 809 bags offered and 260 sold. Good red ball, 2s. 7½d.; weak white, 2s. 2d. @ 2s. 3d.; baky unripe, 1s. 3¾d.; sausage fair to good clean stickless, 2s. 7¼d. @ 2s. 7½d.; low sandy pickings, 1s. 2d.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sale of September 23, 760 tons of rubber were exposed, of which 663 tons were sold at very full prices, showing an average advance of 6½ per cent on valuation—i.e., on values of the preceding sale. The buying was general, including large orders for the United States. The total sales during September amounted to 770 tons, leaving stocks at the end of the month of 457 tons.

At the next sale, on October 28, 400 tons of various Congo sorts will be exposed. Among the principal lots offered will be the following, with their valuation:

15 tons	Lopori I.....	francs	7.25
43 "	Lopori I.....		6 50
44 "	Upper Congo mixed with Loanda and Arnwimi.....		7.02½
14 "	Upper Congo small strips.....		5.80
28 "	Uelé strips.....		5.95
16 "	Arnwimi.....		5.75
11 "	Upper Congo, small black sausage.....		6.00
9 "	Mongalla strips.....		6.75
10 "	Kwango-Loanda.....		6.00
17 "	Lower Congo thimbles.....		2.40
35 "	Lake Leopold II, inferior.....		5.00
7 "	Lake Leopold II, better quality.....		6.30

12 tons	Wamba red thimbles.....	2.90
10 "	Wamba red thimbles.....	3.20

Antwerp, October 11, 1902.

Cable advices report that the rubber offered on the 28th was practically all sold, at an average advance over previous quotations of about 2 cents per pound. A good share of the buying was for the United States.

ANTWERP RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Aug. 31, kilos	756,401	684,355	1,056,124	400,432	144,526
Arrivals, September.	470,084	887,256	417,050	232,517	192,531
Congo sorts.....	429,855	871,360	359,232	230,123	147,871
Other sorts.....	40,229	15,896	57,818	2,394	44,660
Aggregating.....	1,226,485	1,571,611	1,473,174	632,949	337,057
Sales in September.....	769,774	675,468	468,412	325,467	110,183
Stocks, Sept. 30.....	456,711	896,143	1,004,762	307,482	226,874
Arrivals since Jan. 1	4,028,920	4,726,126	4,584,468	2,628,387	1,415,479
Congo sorts.....	3,725,404	4,382,856	4,326,145	2,324,769	1,205,671
Other sorts.....	303,516	343,270	718,323	303,618	209,808
Sales since Jan. 1.....	3,936,918	4,443,932	3,871,697	2,554,245	1,283,068

RUBBER ARRIVALS AT ANTWERP.

SEPT 16.—By the *Albertville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos	93,000
Do.....	(Société Anversoise)	69,000
Do.....	(Comité Spécial Katanga)	2,600
Do.....	(Société Isangi)	7,000
Do.....	(Sultanats du Haut Oubanghi)	150
Do.....	(Plantations Lacourt)	23,000
Société A B I R.....		45,000
Comptoir Commercial Congolais.....		17,000
Société Coloniale Anversoise.....	(Société "La Djuma")	11,000
Do.....	(Belge du Haut Congo)	2,000
Do.....	(Cie. de Lomami)	15,000
Do.....	(Sud Kamernn)	3,000
Do.....	(Société La Lulunga)	4,000
L. & W. Van de Velde.....	(Cie. du Kassai)	13,000
Cie. Commerciale des Colonies.....		3,000
Do.....	(Kassaienne)	1,700
Comptoir Commercial Anversois.....	(Société Ibenga)	1,200
Ch. Dethier.....	(La Haute Sangha)	21,000
W. Mallinckrodt & Co.....	(Alimaïenne)	6,000
		337,550

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

October 1.—By the steamer *Dunstan*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Reimers & Co.....	68,800	33,700	55,400	....	155,900
New York Commercial Co.	40,200	6,800	35,100	1,800	83,900
Ed. Reeks & Co.....	54,400	7,100	5,300	....	66,800
A. T. Morse & Co.....	15,400	2,700	49,100	....	67,200
United States Rubber Co.....	....	....	22,700	....	22,700
Boston Rubber Shoe Co.....	....	....	11,400	....	11,400
Goodyear Rubber Co.....	....	....	7,600	....	7,600
William Wright & Co.....	3,900	....	10,600	....	10,600

Total..... 180,700 50,300 197,200 1,800= 430,000

October 7.—By the steamer *Finance*, from Mollendo:

New York Commercial Co.	14,000	14,000
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October 10.—By the steamer *Maranhense*, from Manáos and Pará:

New York Commercial Co.	64,800	24,600	102,900	600	192,900
A. T. Morse & Co.....	59,800	12,400	37,700	300	110,200
Reimers & Co.....	33,300	14,700	19,500	10,900	78,400
United States Rubber Co.....	....	....	22,800	....	22,800
Boston Rubber Shoe Co.....	....	....	11,400	....	11,400
Ed. Reeks & Co.....	8,100	2,300	1,000	....	11,400
William Wright & Co.....	....	....	6,900	....	6,900

Total..... 166,000 54,000 202,200 11,800= 434,000

October 20.—By the steamer *Hilary*, from Manáos and Pará:

A. T. Morse & Co.....	81,800	10,700	38,600	....	131,100
New York Commercial Co.	27,400	5,600	39,200	....	72,200
Reimers & Co.....	18,600	2,200	27,600	....	48,400

Hagemeyer & Brunn.....	12,200	13,200	10,800	.....=	36,200
United States Rubber Co..	5,400	400	23,200	.....=	29,000
Boston Rubber Shoe Co..	2,500	300	11,400	.....=	14,200
William Wright & Co.....	2,900	300	18,200	300=	21,700
American Hard Rubber Co	.....	.....	6,900	.....=	6,900
G. Amsinck & Co.....	1,100	1,400	200	900=	3,600

Total..... 151,900 34,100 176,100 1,200= 363,300

October 17.—By the steamer *Cumbal*, from Mollendo :

New York Commercial Co.	9,300	.....	1,300	.. ..=	10,600
J. W. Parr's Sons	5,500	.....	2,200	.....=	7,700

Total 14,800 3,500= 18,300

October 22.—By the steamer *Cearense*, from Manaus and Pará

A. T. Morse & Co..	107,200	24,500	72,600	.....=	204,300
Reimers & Co.....	43,300	15,300	61,700	....=	120,300
New York Commercial Co.	71,600	12,400	16,400	300=	100,700
United States Rubber Co.	44,400	8,000	34,400	.....=	86,800
Boston Rubber Shoe Co..	5,400	2,000	12,900	.....=	20,300
Edmund Reeks & Co....	15,100	2,400	2,400	.....=	19,900
H. A. Gould & Co.....	5,000	700	1,900	.....=	7,600
William Wright & Co....	.....	.....	9,500	.....=	9,500
Hagemeyer & Brunn.....	.....	.....	1,300	2,700=	4,000
Total.....	292,000	65,300	213,100	3,000=	573,400

[NOTE.—The steamer *Horatio* from Pará was due at New York on November 1, with 330 tons of rubber.]

PARA RUBBER VIA EUROPE.

SEPT. 25.—By the <i>Majestic</i> =Liverpool :	POUNDS.
George A. Alden & Co. (Fine).....	18,500
Reimers & Co. (Fine).....	3,500 22,000

SEPT. 25.—By the <i>Patricia</i> =Hamburg :	POUNDS.
A. T. Morse & Co. (Coarse).....	5,000

SEPT. 29.—By the <i>Etruria</i> =Liverpool :	POUNDS.
Reimers & Co. (Fine).....	70,000
Reimers & Co. (Coarse).....	34,000
George A. Alden & Co. (Fine).....	11,000
George A. Alden & Co. (Coarse).....	4,000 119,000

OCT. 4.—By the <i>Campania</i> =Liverpool :	POUNDS.
United States Rubber Co. (Fine).....	23,000
William Wright & Co. (Fine).....	9,000
Reimers & Co. (Coarse).....	6,000
George A. Alden & Co. (Coarse).....	4,000 42,000

OCT. 4.—By the <i>Philadelphia</i> =London :	POUNDS.
Reimers & Co. (Coarse).....	45,000
A. T. Morse & Co. (Coarse).....	3,000 48,000

OCT. 13.—By the <i>Umbria</i> =Liverpool :	POUNDS.
A. T. Morse & Co. (Coarse).....	17,000

OCT. 18.—By the <i>Lucania</i> =Liverpool :	POUNDS.
Reimers & Co. (Fine).....	24,000

OCT. 23.—By the <i>Majestic</i> =Liverpool :	POUNDS.
United States Rubber Co. (Fine).....	28,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

SEPT. 23.—By the <i>Tennyson</i> =Bahia, etc.:	POUNDS.
J. H. Rosshach & Bros.....	65,000
G. Amsinck & Co.....	6,500 71,500

SEPT. 27.—By the <i>Esperanza</i> =Mexico:	POUNDS.
F. Probst & Co.....	1,500
E. Steiger & Co.....	1,200
Harburger & Stack.....	500
H. Marquardt & Co.....	700
American Trading Co.....	500
E. N. Tibbals & Co.....	200
For Europe.....	1,200 5,800

SEPT. 25.—By the <i>Patricia</i> =Hamburg:	POUNDS.
Reimers & Co.....	7,500

SEPT. 30.—By the <i>Allianca</i> =Colon:	POUNDS.
G. Amsinck & Co.....	1,100
E. Schiefelin & Co.....	1,100
E. B. Strout.....	800
Jimenez & Escobar.....	700
Gillespie Bros. & Co.....	600
Lawrence Johnson & Co.....	600
Kunhardt & Co.....	600
W. R. Grace & Co.....	500
Joseph Hecht.....	400
A. T. Morse & Co.....	300 6,700

OCT. 2.—By the <i>El Cid</i> =New Orleans:	POUNDS.
Manhattan Rubber Mfg. Co.....	4,000
A. T. Morse & Co.....	2,500
Eggers & Heinlein.....	1,000
G. Amsinck & Co.....	900
A. N. Rotholz.....	200 8,600

OCT. 4.—By the <i>Vigilancia</i> =Mexico:	POUNDS.
F. Probst & Co.....	1,500
Harburger & Stack.....	1,200
H. Marquardt & Co.....	500
J. B. & J. M. Cornell.....	300
A. E. Outerbridge.....	2,500 6,000

OCT. 7.—By the <i>Coleridge</i> =Bahia :	POUNDS.
J. H. Rosshach & Bros.....	16,000
Eggers & Heinlein.....	3,000 19,000

OCT. 7.—By the <i>Financé</i> =Colon :	POUNDS.
A. Santos & Co.....	7,900
American Trading Co.....	4,300

CENTRALS—Continued.

Hirzel, Feltman & Co.....	8,300
G. Amsinck & Co.....	3,100
Eggers & Heinlein.....	2,200
Dunmarest & Co.....	1,500
Frame, Alston & Co.....	1,300
D. N. Carrington & Co.....	1,000
W. R. Grace & Co.....	700
L. N. Chemedlin & Co.....	600 30,900

OCT. 8.—By the <i>Athos</i> =Greystown, etc.:	POUNDS.
E. B. Strout.....	4,200
A. D. Straus & Co.....	3,500
Livingston & Co.....	2,500
G. Amsinck & Co.....	700
Lawrence Johnson & Co.....	500
Samper & Co.....	2,500
J. H. Rosshach & Bros.....	2,000
Roldan & Van Sickle.....	200
For London.....	4,500 20,600

OCT. 8.—By the <i>Graf Waldersee</i> =Hamburg :	POUNDS.
Reimers & Co.....	7,800

OCT. 11.—By the <i>Monterey</i> =Mexico:	POUNDS.
E. Steiger & Co.....	1,500
Thebaud Brothers.....	1,000
Graham, Hickley & Co.....	1,000
For Hamburg, etc.....	5,500 9,000

OCT. 14.—By the <i>Altai</i> =Cartagena, etc.:	POUNDS.
Isaac Brandon & Bros.....	2,500
Kunhardt & Co.....	2,500
Lawrence Johnson & Co.....	500 5,500

OCT. 14.—By the <i>Seguranca</i> =Colon:	POUNDS.
American Trading Co.....	9,300
Eggers & Heinlein.....	4,000
Isaac Brandon & Bros.....	3,400
Hirzel, Feltman & Co.....	2,100
G. Amsinck & Co.....	1,900
Jimenez & Escobar.....	1,700
Kunhardt & Co.....	1,000
Andreas & Co.....	1,000
Harburger & Stack.....	500
D. N. Carrington & Co.....	500 25,400

OCT. 17.—By the <i>El Paso</i> =New Orleans:	POUNDS.
Manhattan Rubber Mfg. Co.....	1,500
G. Amsinck & Co.....	1,000
Eggers & Heinlein.....	500
P. Harmony Nephews Co.....	800
Graham, Hickley & Co.....	200
A. T. Morse & Co.....	2,500 6,500

OCT. 21.—By the <i>Allegheny</i> =Greystown, etc.:	POUNDS.
Andreas & Co.....	3,000
A. D. Straus & Co.....	3,000
E. B. Strout.....	3,000
Livingston & Co.....	1,500
G. Amsinck & Co.....	1,000
American Trading Co.....	1,500
Jimenez & Escobar.....	200
Lawrence Johnson & Co.....	600 13,800

AFRICANS.

SEPT. 25.—By the <i>Majestic</i> =Liverpool :	POUNDS.
George A. Alden & Co.....	16,000
Reimers & Co.....	11,000
Otto Meyer.....	4,500 31,500

SEPT. 25.—By the <i>Patricia</i> =Hamburg:	POUNDS.
A. T. Morse & Co.....	48,000
Otto Meyer.....	47,000
Reimers & Co.....	10,000 105,000

SEPT. 29.—By the <i>Etruria</i> =Liverpool:	POUNDS.
Reimers & Co.....	22,000
Joseph Cantor.....	17,500
William Wright & Co.....	1,000 40,500

SEPT. 30.—By the <i>Friesland</i> =Antwerp:	POUNDS.
Joseph Cantor.....	13,000

SEPT. 30.—By the <i>Bovic</i> =Liverpool:	POUNDS.
Robinson & Tallman.....	22,500

MECHANICAL GOODS.

OCT. 1.—By the <i>Blucher</i> =Hamburg :	POUNDS.
A. T. Morse & Co.....	12,000
Otto Meyer.....	6,000
Reimers & Co.....	38,000 56,000

OCT. 4.—By the <i>Campania</i> =Liverpool:	POUNDS.
United States Rubber Co.....	6,000
Joseph Cantor.....	2,500
William Wright & Co.....	1,000 9,500

OCT. 6.—By the <i>Vaderland</i> =Antwerp:	POUNDS.
Reimers & Co.....	52,000
A. T. Morse & Co.....	16,000
Joseph Cantor.....	7,500
United States Rubber Co.....	6,000 111,500

OCT. 8.—By the <i>Graf Waldersee</i> =Hamburg:	POUNDS.
A. T. Morse & Co.....	27,000
Reimers & Co.....	4,500 31,500

OCT. 9.—By the <i>Teutonic</i> =Liverpool:	POUNDS.
George A. Alden & Co.....	43,000
Otto Meyer.....	3,500 46,000

OCT. 11.—By the <i>Dona Maria</i> =Lisbon:	POUNDS.
George A. Alden & Co.....	44,500

OCT. 13.—By the <i>Umbria</i> =Liverpool :	POUNDS.
A. T. Morse & Co.....	21,000
George A. Alden & Co.....	20,000 41,000

OCT. 13.—By the <i>St. Paul</i> =Southampton :	POUNDS.
Reimers & Co.....	7,000
H. A. Gould & Co.....	6,000 13,000

OCT. 13.—By the <i>Kroonland</i> =Antwerp :	POUNDS.
George A. Alden & Co.....	556,000
Reimers & Co.....	75,000 631,000

OCT. 15.—By the <i>Oceanic</i> =Liverpool:	POUNDS.
Reimers & Co.....	13,000
George A. Alden & Co.....	6,500
Otto Meyer.....	9,000 28,500

OCT. 16.—By the <i>Pennsylvania</i> =Hamburg:	POUNDS.
George A. Alden & Co.....	21,300
Reimers & Co.....	11,000
Otto Meyer.....	6,000
A. T. Morse & Co.....	5,000 13,000

OCT. 18.—By the <i>Peninsular</i> =Lisbon:	POUNDS.
George A. Alden & Co.....	22,000
Reimers & Co.....	11,500 33,500

OCT. 21.—By the <i>Moltke</i> =Hamburg:	POUNDS.
Otto Meyer.....	76,000
George A. Alden & Co.....	42,000
Reimers & Co.....	33,500
A. T. Morse & Co.....	34,000 185,500

OCT. 24.—By the <i>Majestic</i> =Liverpool:	POUNDS.
Joseph Cantor.....	13,000
George A. Alden & Co.....	3,000 16,000

EAST INDIAN.

SEPT. 26.—By the <i>Nyanza</i> =Calcutta:	POUNDS.
Reimers & Co.....	2,000

OCT. 6.—By the <i>Spithead</i> =Singapore:	POUNDS.
Windmuller & Reolker.....	22,500
George A. Alden & Co.....	12,500 35,000

OCT. 13.—By the <i>St. Paul</i> =Southampton:	POUNDS.
Reimers & Co.....	7,000

OCT. 14.—By the <i>Bendloch</i> =Singapore :	POUNDS.
D. P. Cruikshank.....	16,000

OCT. 20.—By the <i>St. Louis</i> =Southampton:	POUNDS.
Reimers & Co.....	5,000
Otto Meyer.....	4,500 9,500

PONTIANAK.

SEPT. 29.—By the <i>Braemar</i> =Singapore:	POUNDS.
Robert Brauss & Co.....	11,000

EAST INDIANS—Continued.

Oct. 6.—By the <i>Sputhead</i> =Singapore:	
J. H. Reeknagel & Co.....	42,000
Oct. 14.—By the <i>Beneluch</i> =Singapore:	
George A. Alden & Co.....	270,000
Robert Brauss & Co.....	250,000
Robinson & Tallman.....	110,000
William Wright & Co.....	200,000
W. R. Russell & Co.....	110,000
	940,000

Oct. 22.—By the <i>Asomat</i> =Singapore:	
George A. Alden & Co.....	100,000
W. R. Russell & Co.....	35,000
	135,000

GUTTA-PERCHA AND BALATA.

Sept. 25.—By the <i>Patriot</i> =Hamburg:	
To Order.....	6,500

Oct. 1.—By the <i>Blucher</i> =Hamburg:	
To Order.....	6,000

Oct. 8.—By the <i>Graf Waldersee</i> =Hamburg:	
To Order.....	11,500

Oct. 14.—By the <i>Beneluch</i> =Singapore:	
George A. Alden & Co.....	1,500

BALATA.	
Sept. 29.—By the <i>Prins Maurits</i> =Surinam:	
G. Amsinek & Co.....	2,000
George A. Alden & Co.....	500
	2,500
Sept. 29.—By the <i>St. Louis</i> =Southampton:	
Henry A. Gould & Co.....	4,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—SEPTEMBER.

Imports:	POUNDS.	VALUE.
India-rubber.....	3,866,811	\$1,824,187
Gutta-percha.....	8,393	9,61
Gutta-jelutong (Pontianak).....	908,705	19,397
Total.....	4,783,909	\$1,853,845
Exports:	POUNDS.	VALUE.
India-rubber.....	63,202	\$31,780
Reclaimed rubber.....	27,602	3,428
Rubber Scrap Imported.....	1,508,956	\$89,111

BOSTON ARRIVALS.

	POUNDS.
SEPT. 2.—By the <i>Sachem</i> =Liverpool:	
Reimers & Co.—African.....	5,589
SEPT. 8.—By the <i>Utonia</i> =Liverpool:	
Reimers & Co.—Caucho.....	7,476
SEPT. 16.—By the <i>Sagamore</i> =Liverpool:	
George A. Alden & Co.....	11,169
SEPT. 16.—By the <i>Victorian</i> =Liverpool:	
George A. Alden & Co.—African.....	2,264
SEPT. 17.—By the <i>Chicago</i> =London:	
George A. Alden & Co.—African.....	4,618
SEPT. 19.—By the <i>Devonian</i> =Liverpool:	
Livesey & Co.—African.....	1,102
SEPT. 29.—By the <i>Michigan</i> =Liverpool:	
Reimers & Co.—African.....	19,588
Total Imports.....	51,506
[Value, \$21,401]	

SEPTEMBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.....	35,190	9,010	40,420	—	84,620	124,950	24,990	36,400	1,500	187,840	272,460
Frank da Costa & Co.....	—	1,424	86,568	150	88,142	101,638	13,172	47,716	—	162,526	250,668
Adelbert H. Alden.....	33,788	7,192	93,012	719	134,711	136,300	20,490	29,140	3,841	189,771	324,482
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	4,932	955	1,084	—	6,971	6,971
Neale & Staats.....	—	—	15,960	—	15,960	16,905	2,946	8,312	998	29,221	45,181
Denis Crouan & Co.....	3,029	167	8,959	—	12,155	12,802	2,663	5,526	—	20,991	33,146
R. Suarez & Co.....	—	—	—	—	—	11,755	2,685	2,977	—	17,417	17,417
Pires, Teixeira & Co.....	—	—	—	—	—	5,300	—	2,323	—	7,623	7,623
Sundry small shippers.....	—	—	—	—	—	2,979	—	531	—	3,510	3,510
Direct from Iquitos.....	—	—	—	—	—	21,170	1,807	4,222	14,660	41,859	41,859
Direct from Manaos.....	203,813	72,402	36,298	6,257	318,770	239,124	49,343	23,251	18,201	329,919	648,689
Total for September.....	275,820	90,195	281,217	7,126	654,358	677,915	119,051	101,482	39,200	997,648	1,652,006
Total, July August.....	549,657	115,443	516,115	92,429	1,273,644	785,140	114,725	246,837	226,987	1,373,689	2,647,333
TOTAL, CROP YEAR.....	825,477	205,638	797,332	99,555	1,928,002	1,463,055	233,776	408,319	266,187	2,371,337	4,299,339

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1902.....	3,446,372	198,146	3,248,226	August, 1902.....	2,872,688	2,435,440	437,248
January-July.....	30,308,134	2,102,630	28,205,504	January-July.....	29,076,096	17,790,528	11,285,568
Eight months, 1902.....	33,754,506	2,300,776	31,453,730	Eight months, 1902.....	31,943,784	20,225,958	11,722,810
Eight months, 1901.....	37,137,470	2,656,064	34,481,406	Eight months, 1901.....	35,513,520	21,383,488	14,130,032
Eight months, 1900.....	31,556,131	2,688,569	28,867,462	Eight months, 1900.....	42,306,208	23,056,124	19,249,784
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1902.....	2,761,000	1,191,080	1,569,920	August, 1902.....	93,500	660	92,840
January-July.....	19,546,780	7,583,180	11,963,600	January-July.....	870,760	80,960	789,800
Eight months, 1902.....	22,307,780	8,774,260	13,533,520	Eight months, 1902.....	964,260	81,620	882,640
Eight months, 1901.....	19,126,140	6,601,320	12,524,820	Eight months, 1901.....	1,048,300	92,840	955,460
Eight months, 1900.....	20,071,480	6,522,340	13,549,140	Eight months, 1900.....	1,068,100	—	1,068,100
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1902.....	1,564,640	708,180	856,460	August, 1902.....	142,560	220	142,340
January-July.....	10,013,520	4,917,660	5,095,860	January-July.....	1,600,280	10,780	1,589,500
Eight months, 1902.....	11,578,160	5,625,840	5,952,320	Eight months, 1902.....	1,742,840	11,000	1,731,840
Eight months, 1901.....	11,243,320	7,601,500	4,241,820	Eight months, 1901.....	1,727,220	19,580	1,707,640
Eight months, 1900.....	12,003,200	6,736,620	5,266,580	Eight months, 1900.....	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.



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A LESSON FROM THE WHITEWASH MAN.

IN a recent issue of this journal a page was devoted to describing the class of machines which squirt whitewash through a rubber tube, as a substitute for the old style of handwork with a brush. Doubtless thousands of honest whitewashers have been forced by the introduction of these machines to seek other vocations, or else starve or beg. There must have been hardship in many cases, and an artist might have found a theme in one of these discarded workmen, sitting in despair over his now useless brush and pail, and too old to learn a new occupation. But the world does not pause to offer consolation; whitewashing is done better and for less money under the new régime, and the old must give way.

The butcher's trade of other days has disappeared likewise. The small operator, handling a single beef carcass a day, perhaps, regarded half of it as waste. The other half had to bring enough money to reimburse the butcher for the cost of the animal and for his labor. Nowadays every portion of the animal is converted into merchantable commodities, and, through combining the results of scientific research with a higher class of business management, although the price of meat is higher than in primitive times, it doubtless is much lower than if the only dependence still was upon the butcher who killed his own one beef per day and threw away half of it as worthless. There may be a cry of "beef trust" for awhile, but inevitably the small butcher must follow the man with the whitewash brush.

And this is the "trust" problem; economic changes follow one another too rapidly for everybody to keep pace with them, and there are always ears to take in any cry that things are going wrong. So does history repeat itself, except that the cry ever has a new catchword. A generation ago half the people were excited over the "railroad monopoly" question. Horace H. Day was alive then—Goodyear's great adversary in the rubber patent litigation—and his latter years were spent in aggressive warfare against the great public wrongs under which he beheld the masses suffering. But nowadays few people can recall those great wrongs and few rubber men, even, remember in what national political convention Mr. Day was a prominent figure and the choice of some of the delegates for president of the United States. And what became of the monopolies and of the oppressed masses? The politicians who made capital of such things dropped out of sight; the people forgot their wrongs when no longer reminded of them so vociferously; and the world kept on its way.

To day no one could get support for a crusade against the railroads, since the public recognizes the advantages of travel across the continent by through train, over making a change at every county town. The people can no longer be infuriated against the banks as in the days before the civil war, and in a few years more it will be equally impossible to get up a furore against the manufacture of goods by large aggregations of capital. There is one class that will have reason to denounce "trusts" for a longer time—those who have paid good money for worthless

shares. But the public has little sympathy for the purchasers of "gold bricks," and these will have to suffer in silence, or perhaps join the whitewash man and the discarded butcher.

Meanwhile the manufacture of the goods needed for the world's consumption will be carried on, by large or small aggregations of capital, as may contribute to the greatest good of the greatest number, and the laws of the land will be kept in accord with the needs of the people. The greatest business in the country and the most firmly grounded social order—constitutions and states, even—must share the fate of the humble whitewasher when they no longer fit in with the world's ruthless scheme of progress.

THE UNITED STATES RUBBER CO.'S PLANS.

CERTAIN reports which appeared lately in this journal, in the current presentation of the news of the trade, relative to the plans of the United States Rubber Co. for securing rubber more directly from the regions of the Amazon and the Congo, have, for some reason not yet clear, been received in Europe with incredulity. We may quote, for illustration, the following lines from the latest number to hand of an esteemed contemporary in Dresden:

TO THE EDITOR OF THE GUMMI-ZEITUNG: In regard to the article under the title "From America—New Enterprises of the United States Rubber Co.," appearing in the November 7 number of your valuable publication, we take the liberty of calling your attention to the announcement reprinted in the *Journal de Bruxelles*, of October 8, which states, under the title "Choses du Congo," that "no propositions have been made to the government of the Congo Free State in regard to the rubber production, nor has any conversation between his Majesty, the king of the Belgians, and the president of the rubber company across the ocean taken place."

B. & C.

WE wish to remark that the article referred to—after ignoring many former reports—was taken from the American trade paper, THE INDIA RUBBER WORLD. It is well known that this paper is generally very trustworthy, and therefore we took it for granted that actual facts were given. Why are such untruths sent into the world? Does the United States Rubber Co. need them for stock exchange purposes? That, certainly would be significant!—GUMMI-ZEITUNG.

THE INDIA RUBBER WORLD does not know upon what authority the above named Brussels newspaper speaks. But it does know the authority for its own references to negotiations which have been begun in behalf of the United States Rubber Co., looking to a closer connection with the Congo rubber trade, and hence has no reason to withdraw any statement made hitherto in its columns. The above quoted testimonial to the trustworthiness of THE INDIA RUBBER WORLD's news, by the way, is highly appreciated, and it is hoped that our German contemporary may never find reason to express a different opinion of this journal.

It is quite true, of course, that the negotiations of the United States Rubber Co. in the direction referred to may not soon, if ever, lead to any results. The company have already entered into a contract with the *concessionaires* for the Acre territory to take any rubber which the prospective Bolivian Syndicate may be in a position to offer, but, judging from the present unsettled condition of that territory, no rubber from there can be looked for soon.

How far these new plans of the United States Rubber Co. may have been meant to influence stock exchange prices only the inner management know. But it is not usual, in "rigging" the stock market, for the operators to begin by taking the public into their confidence years before the earliest possible realization of their plans. The news about the United States Rubber Co. above referred to was not first promulgated through the sources usual for affecting the stock market, and was unaccompanied by any indication of a "bull" raid. Besides, the exchange quotations for these issues have declined steadily since the Congo Acre reports appeared, on smaller transactions than usual—none of which things would have been probable if the object of these reports had been to induce the public to buy "U. S. Rubber."

The truth is that the theory obtains, in industrial America, that it is good economy to control all the elements of production within any given branch. The great steel combination, for example, owns iron mines, coal mines, and transportation facilities, in order that it may not be at the mercy, at any stage of the making and marketing of its products, of a subsidiary class of producers. The same theory was exemplified in the great establishment of Herr Krupp, of Essen, whose tragic death was reported during the month. Evidently the United States Rubber Co., being a larger consumer of crude rubber than any other company in the world—say about \$10,000,000 worth yearly—are planning to buy their rubber at absolutely "first hands," in pursuance of the theory above suggested, and it will be of interest to watch the result. The complete success of the company's plans doubtless will give them some advantage in the purchase of raw material as over the methods of the past, but it will not give them any control over the supply required by any other consumers.

THE BATTLE OF THE GOLF BALLS.

THE Professional Golfers' Association, which includes the leading professional players of Great Britain, has decided after a discussion of the new rubber cored ball, that it is not conducive to the advancement of golf as a game of skill. It urges that only Gutta-percha balls be used in the open championships next year.

The interest of THE INDIA RUBBER WORLD in this announcement is twofold. As a helper, according to its ability, of the rubber trade, it naturally is pleased to have the invention of a rubber man win so much success as to arouse bitter opposition. And then the Editor plays golf, and has met upon the links so many other rubber men that he is sure that the readers of this journal share his double interest.

From the rubber standpoint, the thing is simple enough. The rubber cored ball has proved itself a good thing—so good, indeed, that it has practically pushed itself along. And its pushing itself along is pretty certain to continue until it gets the field thoroughly within its grasp. It has already secured the friendship of the leading tournament players, and, if it didn't cost so much, everybody would use it for the daily exercise on the links.

There is more complexity to the question from the golfer's point of view. He hesitates about giving the new ball his unqualified approval. For it is an acknowledged fact that the

rubber cored ball helps the poor and medium player far more than it helps the most skilful. It follows that if a golfer is in the skilful class he prefers things to remain as they are. He can beat more opponents with the gutta ball than with the rubber. And golfers who are not in the skilful class naturally hesitate to proclaim their inferiority, unless it be one of those things that proclaim themselves so loudly as to reach even the ears of the unduly vain. Evidently, as a matter of theory, at least, it is left for the duffers to fight the battles of the new ball.

And yet one finds some people of very respectable attainments in other lines than golf upholding the innovation. No less a personage than the Right Honorable Arthur J. Balfour has rushed or been pulled into print with a defense of the rubber core. The point which the Prime Minister makes is that golfers ought not to be restricted in their choice of playing implements. The only way in which the new balls can be ruled out is by the adoption of specifications for a standard ball, and probably in time by the giving of some single manufacturer or combination of manufacturers a monopoly of the market. Things have worked that way in baseball, and so far as championships are concerned they would pretty certainly work so in golf. Now it is one of the attractions of golf to a good many busy people that it allows a man to follow his own whims just as far as courtesy to other members of his club permits. He can rush around the links or he can take all day on a single round. He can drive with a putter and put with a driver if he feels inclined. He can play with a caddie or without one. He can use a long club or a short one. He can play one way one day and another way the next, with no man to say him nay, however much his friends may feel entitled to laugh at his whims. To establish specifications as to a standard ball would be a departure indeed.

The opponents of the new ball have no record of consistent conservatism back of them. The appeal to immemorial usage is estopped. There must be men living who remember when golf was played with a ball of leather stuffed with feathers. After having made the radical transition from feathers to Gutta-percha, the step from gutta to rubber seems short indeed. Yet the attitude which they have taken must be attributed in part to a dislike for change as change, perhaps especially when the change bears an American label. Every new thing has to encounter opposition of that sort, and the opposition sometimes goes to extreme lengths. The days when laborers struck against the introduction of labor saving machines is so far gone that a manufacturer no longer needs to figure on the chance that any new machinery he puts into his mill will be smashed. But the spirit which made the introduction of machinery so risky a speculation survives not only among laboring men but among sportsmen as well. Anything which compels a readjustment of ideas or of practice is sure to meet bitter opposition.

Such opposition never pays, however. It is written in an ancient poem that a gentleman named Joshua once commanded the sun to stand still and was obeyed. But this is one of the few cases on record where human opposition to progress has been successful. The sun rises and sets on time every day, and a man who tries to stop the earth from revolving around the sun has undertaken a contract many sizes too large for him. It might pay the members of the British Professional Golfers' Association to ponder the story of the retraction of Galileo. He solemnly abjured the error of asserting that the earth moved, but the earth moved just the same, and Galileo knew it and said so on occasion. Darwin was never put under duress to force a retraction of his great scientific theory, but if the *odium theologicum* could have availed to do anything with him, he would

surely have suffered. But nowadays the theologians are falling all over each other to see which can go farthest in applying the idea of evolution to the doctrines they teach. The mathematical demonstration that a steamship could not cross the Atlantic ocean was brought across the Atlantic on a steamship. In fact, history is full of instances of the folly of standing in the way of progress, and a study of them is commended to the attention of those who would refuse standing to the rubber cored golf ball.

If this controversy were a matter of political interest, we should be sure to hear the suggestion that the opposition was dictated in the interests of the "corporations" and should be exhorted to stand by the new in order to rebuke the aggressions of capital. The fact that corporations are interested on both sides would never be stated in any single paper. But it is not at all likely that we need suspect any corruption fund has been arranged or any press propaganda undertaken. The questions under discussion will be decided according to the merits of the case. If the new ball is really better than the old, the old must go.

THE FIRST NOTABLE ATTEMPT in the new world to cultivate any species of *Hevea* ("Pará" rubber) is being made in Ecuador by citizens of Minnesota, one of the most northern of the United States. Now that the feasibility of rubber culture has become impressed upon the minds of Americans, there seems to be no limit to their enterprise in this new field. Another venture mentioned in our pages this month is that of a New Englander in introducing the native rubber of Ceará (southern Brazil) into Nicaragua. These foreign locations, by the way, will not appear nearly so "far from home" as they might to the people of some other countries, for the reason that the average citizen of the United States becomes accustomed to long distances in getting established in business in his own country. If once a promise of profit in rubber appears, no mere consideration of distances will prevent the most from being made of it. Hence the people of the United States may yet be found first in the matter of systematizing the exploitation of South American rubber, both in conserving natural supplies and by increasing those supplies through planting.

IT IS VERY DOUBTFUL IF MR. CARNEGIE ever uttered the advice to young men to invest liberally in rubber planting that is being credited to him in the advertisements of certain companies organized lately in this interest. But even if he had—and with all respect to Mr. Carnegie's surpassing ability as a business man—his advice on the subject of rubber planting would be worth no more than that of the first man to be met on the street, because Mr. Carnegie has never had any experience to fit him to advise for or against investments in rubber. As for the rubber planting companies referred to, we should expect more of them if they were to quote from authorized statements of persons qualified to speak, instead of from such doubtful sources as the alleged Carnegie interview.

THE CREED OF THE CURIOUS RUSSIAN SECT known as the Doukhobors, who, having a large and prosperous settlement in northwestern Canada, suddenly freed their cattle, deserted their farms, and started out on a crusade to convert the world, is favorable to the rubber trade. They believe it to be wrong to make any use of leather, because animals must be slain to produce it, and hence the men wear rubber boots and the women rubber shoes. Very sane and sensible is that part of their conduct. Honest, earnest, foolish fanatics though they be, may they prosper and their tribe increase.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first nine months of 1902, compared with the same period of three years preceding, not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
September....	\$ 53,705	\$194,130	\$ 168,868	\$ 416,703
January Aug.	459,871	524,629	1,298,132	2,282,632
Total, 1902.	\$513,636	\$718,759	\$1,467,000	\$2,699,395
Total, 1901.	447,653	567,397	1,321,115	2,336,165
Total, 1900.	401,604	411,899	1,117,539	1,931,042
Total, 1899.	(a) 153,462	203,921	1,147,165	1,504,548

(a) Included in "All Other" prior to July 1, 1899.

The number of pairs of rubber boots and shoes exported during the first nine months of 1902 was 1,589,910, against 1,366,322 pairs for the corresponding months of 1901 and 785,614 pairs in 1900.

RUBBER GOODS EXPORTS FROM NEW YORK.

DURING five weeks ended October 28, 1902:

Argentina...\$ 506	Denmark.... 534	Nova Scotia. 493
Australia... 15,045	Dutch W. Ind 56	Peru..... 810
Aus.-Hung'y 409	Dutch E. Ind 72	Portugal... 974
Belgium.... 4,952	Dan. W. Ind 93	Philippines.. 1,736
Brazil..... 1,491	Ecuador.... 7,715	Russia..... 425
Brit. W. Ind. 947	France..... 12,216	Sweden.... 273
Brit. E. Ind. 2,072	Germany... 32,447	San Domingo 227
Brit. Africa.. 12,851	Great Britain 80,177	Switzerland.. 3,006
Brit. Guiana. 209	Haiti..... 22	Spain..... 1,020
Cuba..... 6,868	Italy..... 1,487	Turkey..... 5,411
Colombia... 742	Japan..... 1,261	Turkey(Asia) 15
Canary Isl.. 23	Mexico.... 4,178	Venezuela... 212
Central Amer 1,165	Newfoundld. 799	
China..... 428	Netherlands. 3,621	Total ..\$208,861
Corea..... 22	Norway... 1,529	
Chile..... 280	New Zealand 42	

SUMMARY.

July 2-29 (four weeks)	\$117,578
July 30-September 26 (four weeks).....	119,103
August 27-September 23 (four weeks).....	161,041
September 24-October 28 (five weeks).....	208,861

Total since July 1.....\$606,583

RUBBER GOODS IN THE CHINESE TARIFF.

UNDER the new Chinese tariff, effective since October 31, 1902, the following duties are imposed on imports of India-rubber and Gutta-percha:

Crude, 5 per cent. *ad valorem*.

Manufactures (other than boots and shoes), per picul, 3.140 haikwan tael=\$1.49 per 100 pounds.

India-rubber boots, per pair, .08 tael=\$5.048 cents.

India rubber shoes, per pair, .02 tael=1.262 cents.

Old rubber (fit only for remanufacture), per picul, .25 tael=11.9 cents per 100 pounds.

Asbestos packing (including sheets and blocks) is dutiable at 3½ haikwan tael per picul, and asbestos packing (metallic) at 5 haikwan tael, equivalent to \$1.66 and \$2.37, respectively, per 100 pounds avoirdupois. The rate for "Packing, engine and boiler, and all other kinds" is 5 per cent. *ad valorem*.

WHERE "INDIAN RUBBER" GOODS COME HIGH.

AN *ad valorem* duty of 40 per cent. is provided for in the Newfoundland "Revenue act, 1901," on all importations of "Indian (*sic*) rubber boots and shoes and all manufactures in part or in whole of Indian rubber or gutta-percha; Indian rubber clothing and clothing made waterproof with Indian rubber or like substances; rubber or gutta-percha hose, and cotton or linen hose, lined with gutta-percha or Indian rubber." It would appear, however, that rubber belting may be imported

at 20 per cent. *ad valorem*, under the heading "Belting of leather, or other material for machinery, including lacings or fasteners." The rate on asbestos, and all manufactures thereof is 36 per cent. *ad valorem*, and on linoleum the same.

COMPARATIVE STATEMENT BY COUNTRIES.

VALUE of imports and exports of manufactures of Caoutchouc and Gutta-percha, officially reported, for the nine months of January-September (inclusive), 1902, stated in United States money, at par of exchange:

	Imports.	Exports.
Germany.....	\$2,188,886	\$6,383,874
United Kingdom.....	[a] 2,455,908]	4,415,556
United States	498,886	2,702,410
France (special commerce).....	1,451,360	1,441,131
Austria-Hungary	1,786,920	1,406,160
Italy.....	594,817	439,864
Total.....	\$8,976,777	\$16,789,025

[a—Not officially stated as yet this year. Imports since January 1 estimated upon average rate for same period of five years past.]

The combined excess of exports for the countries named was \$7,812,248 for nine months, or at the rate of \$10,416,331 per year as the value of the market for rubber goods outside of these leading manufacturing countries. The outside market is worth even more than this. There should be added to these 10 millions the value of whatever manufactures of India-rubber are exported by Russia to other countries than are named in the table above—a quantity not at present stable.

RUBBER FOOTWEAR IMPORTED AND EXPORTED.

OFFICIAL returns for January-September, 1902; included also in the totals in the preceding table:

	Imports.	Exports.
Germany.....	\$644,266	\$371,280
United Kingdom.....	[a] 898,677]	572,174
United States.....	None.	718,759
France (special commerce).....	286,219	142,627
Austria-Hungary.....	152,270	297,354

[a—Estimate based upon statistics for last year.]

GERMAN STATISTICS OF RUBBER FOOTWEAR.

NINE months—January to September inclusive:

COUNTRIES.	1900.	1901.	1902.	1900.	1901.	1902.
Great Britain..kilos	26,300	20,800	12,700	116,200	118,000	186,100
Austria-Hungary.	30,800	19,500	8,800	.....	.....	.....
Russia.....	391,200	425,300	317,400	.....	.....	.....
Sweden.....	10,000	15,000	24,900	.....	.....	.....
United States....	35,400	50,800	78,400	.....	.....	.....
Belgium.....	.....	.....	.....	10,400	8,900	8,200
Denmark.....	.....	.....	.....	4,200	2,700	3,400
France.....	.....	.....	.....	15,800	7,400	7,300
Other countries..	2,200	2,800	9,000	66,500	35,500	78,600
Total...kilos.	495,900	534,200	451,200	213,100	172,500	283,600

AUSTRO-HUNGARIAN STATISTICS OF RUBBER FOOTWEAR.

NINE months—January-September, 1902—in kilograms:

IMPORTS.			
Russia.....	90,600	Switzerland....	700
Germany.....	10,600	Denmark.....	300
United States.	5,100	France.....	200
Great Britain..	3,100	Servia.....	100
		Total.....	115,400
		Nine mos.'or.	122,300
EXPORTS.			
Germany.....	96,200	Belgium.....	12,100
France.....	48,500	Holland.....	8,800
Roumania.....	46,400	Hamburg.....	8,000
Turkey.....	40,500	Bulgaria.....	3,500
Brit. E. Ind..	35,100	Greece.....	1,600
Italy.....	31,100	Egypt.....	1,200
Great Britain.	18,700	Spain.....	600
Switzerland...	12,500	China.....	500
		Total.....	347,500
		Nine mos.'or.	491,700

In connection with the above mentions of Russia it may be stated that 3,514,464 pairs of "galoshes" were exported last year from Kronstadt, of which 3,322,656 pairs for Germany.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE tender forms for the usual Admiralty contracts have been sent out a month later than usual this year, November 11 being the last date for sending in. With regard to the specifications one or two alterations, and rather important ones too, deserve to be noticed. Instead of the stereotyped expression "pure Pará rubber," the "best rubber" has been substituted, it having evidently at last dawned upon the official mind that in the case of compounded mechanical rubbers the use of fine Pará only is not an absolute necessity. Of course this gives greater scope to those manufacturers who have hitherto stuck rigidly to the letter of the specification in preparing their samples and quotations. However, the next alteration I would draw attention to does a good deal to nullify the advantage supposed to be gained by the elimination of the word "Pará." This alteration consists in raising the old established heat tests from three hours moist heat at 320° F. to four hours, and from one hour dry heat at 270° F. to two hours at that temperature. It rather looks as if some exterior influences had been at work to bring about this revision, because government departments are notoriously slow moving. Certainly for many years I have heard rumblings and rumors of discontent among rubber manufacturers as to the inadequacy of the tests applied; undoubtedly in the past they have been on the side of those who have not looked closely to the wording of the specification, and there can be no doubt that those whose only wish is to supply a first class article at a commensurate price will welcome the greater stringency of the tests.

WHENEVER I take up a volume dealing generally with chemistry and devoting a chapter or two to some branch of the rubber trade it is always with some degree of apprehension that I turn to the pages dealing with rubber. I have in mind at the moment a recently issued volume translated from the German, "The Utilization of Waste Products," by Theodor Koller. As an attempt to epitomize the existing condition of the recovered rubber industry it is wholly inadequate, if indeed not misleading, the subject matter being evidently compiled from Patent office sources without any attempt having been made to discriminate between the shadowy ideals of enthusiastic patentees and what has really proved of service and come to be employed on the large scale.

As foreshadowed in these notes a few months ago the competition between the established dealers in reclaimed rubber in this country, both for the home and the American product, and the newly started North Western Rubber Co., of Litherland near Liverpool, has become somewhat acute. With regard to the actual merits of the various products I am not concerned here, but it may be mentioned that the North Western goods are of somewhat different composition to what our manufacturers have been using. With regard to the poorer qualities of black waste recovered from old mechanical rubbers, the demand does not seem equal to the supply. For one thing many of the rubber works grind up such waste for themselves, buying it from the railway companies, who are now all alive to the monetary value of their old rubber. Whenever a stock has accumulated a tender form is sent to the rubber works as well as to the regular dealers in waste rubber, and it is not surprising that the rubber

manufacturer will sometimes bid a pretty good price if he wishes to get in the good books of the railway company with regard to prospective business in new material. With respect to firms carrying on the reclaiming business I was somewhat surprised to hear that the Rubber Chemical Co., Limited, had decided to cease manufacturing in London and that their works and plant were for sale. It is only a short time since the mills were fitted up with machinery at a considerable cost, but no doubt there are substantial reasons for carrying on the business entirely at Birmingham.

NOT unnaturally the Leyland and Birmingham Rubber Co. are somewhat jubilant over their success in the long distance tire trials, the Collier tire, owned and made by them, obtaining the most marks. It is only fair to say that the Dunlop tire, made closely on the lines of Michelin's, also showed up well. The collapse of the much vaunted Goodyear tire has formed a topic for much discussion, and under the circumstances it seems a pity that its merits had not been more severely tested before being put upon the English market. It may be mentioned, by the way, that the arrangement came to between Messrs. Michelin and the Dunlop company as to the sale of the former's tires in Great Britain has not been renewed, and it is understood that the Dunlop company have made a somewhat similar arrangement with the Continental Caoutchouc- und Gutta-percha- Compagnie of Hanover.

ALTHOUGH important additions have recently been made in the service from the metropolis to the north of England, it is clearly announced by the government authorities that the ground wires are only to be considered as adjuncts to the overhead service, to be used mostly when the latter are affected by storms or snow. This because they are more costly and difficult to work. Without going into great detail it may be pointed out that in the case of the very low telephone currents the question of the insulator used is of the highest importance. All materials absorb a certain amount of current—or, in more technical language, have a certain inductive capacity. With regard to this, constant dry paper gives the lowest figure, and it has therefore been adopted entirely for long distance telephony in place of Gutta-percha. The use of paper for the long distance telephone cables is not identical with the practice employed in the case of short town wires. In the latter case each wire is insulated with paper and encased in a tube while in the former, as for instance in the London-Birmingham cable, the wires are bare but separated from each other by a longitudinal bed of paper. The utmost precautions are requisite in laying and jointing such cables to prevent the access of moisture. This question of moisture in our climate has had such an adverse influence upon the dry core cable manufacture that it has practically died out, cables of American make being now very generally used in Great Britain.

THE merits and demerits of this substance have during recent months formed the subject of much discussion and experimental work. Though it appears to be of somewhat similar character to the "euphorbiagum" or "potato rubber" which has never attained more than a modicum of success in the trade, it has proved itself superior to it as a cheap binding ingredient in certain rub-

GOVERNMENT
CONTRACTS.RECENT
MOTOR TIRE
TRIALS.UTILIZATION
OF WASTE.UNDERGROUND
TELEGRAPH
LINES.RECLAIMED
RUBBER.FONTIANAK
GUM.

ber mixings. From its *habitat* it is a safe assumption that it has long been known to us as a component of inferior grades of Gutta-percha, it being notorious that intermixture of vegetable juices goes on largely among the Gutta-percha collectors of the Malay peninsula.

It is with great regret that I record the sudden death from pneumonia of Mr. Harry Heaton, until quite recently known

as the Junior. Mr. Heaton, who was educated at

OBITUARY.

Rossall school, started and worked with great success for many years the rubber manufacturing business of Capon Heaton & Co. at Sturchley Mills, near Birmingham, and on retiring therefrom a year or two ago started the old Seddon Tyre Co. works at Gorton, Manchester, as the Gorton Rubber Co., Limited, being the largest holder of shares and acting as managing director. It is only doing bare justice to Mr. Heaton's business capacity and long experience to say that it was mainly by his efforts that the shareholders of the Gorton Rubber Co., have found themselves in a much more favorable financial position than was the case before the reconstruction was effected. A man of somewhat retiring disposition, amounting almost to brusqueness at times, in his dealings with strangers, Mr. Heaton will be much missed by those with whom he was on intimate terms and who had opportunities afforded them of estimating his social qualities. The English rubber trade and the Rubber Manufacturers' Association, of which he was this year a member of the committee, have real cause to mourn the loss of one whose personal interests were so closely bound up with the welfare and development of the trade generally.==I have, with regret, also to mention the recent death of Mr. T. M. Bleachley, who, first at Manchester and afterwards at London, had looked after the business interests of Messrs. Charles Macintosh & Co., Limited, for about thirty-seven years. From personal acquaintance I can testify to the general esteem in which both his general customers and those who worked under his supervision held the deceased; his unfailing courtesy to all who had dealings with him being a prominent trait of his character.==Another painfully sudden death was that of Mr. G. H. Scott, on October 27. Succeding to the position of his late brother, Samuel Scott, seventeen years ago, he had been prominently associated with the well known rubber substitute firm of New Mills, near Stockport. Recently Mr. Scott had acted as works manager under the board which controls the destiny of the limited company formed in the beginning of the present year to work the business. Mr. Scott was formerly in the calico printing business.

It is understood that this company has absorbed Capon Heaton & Co., Limited, of the Sturchley Mills, Kings, Norton, and the Midland Rubber Co., of Birmingham.

DUNLOP RUBBER CO. These two firms, after commencing well, have passed through troublous times since they participated in the tire "boom," and recently both have been under the jurisdiction of an official receiver. The rubber trade of Birmingham and district will now be entirely in the hands of one firm, though of course the local agents for other British firms will see to it that they do not possess a monopoly. Mr. Boardman, for some time manager of the spreading department and temporary manager of the rubber works, is among those who have lately severed their connection with the Dunlop company.

As foreshadowed in my last notes the call on the shareholders has not produced the desired result, and the scheme has therefore been decided in the Manchester chancery court to be at an end. The property will now probably be sold to pay off the bank and other creditors, the outlook for the shareholders being

poor in the extreme. The property and connection, however, being of decided value, the sale is pretty certain to result in the premises being carried on as a rubber works, and if the capitalization is on a sound basis the future may be looked to with confidence. Mr. William Laidlaw, who was for some time cashier at the works, is now the manager of the London depot.

MR. PATTERSON, formerly of the North British Rubber Co., and latterly manager of the Gorton Rubber Co., has recently gone to the Standard Rubber Co., at West Gorton, the property, as recently stated in these notes, of Messrs. Littlewoods, of Birmingham.

CHANGES IN PERSONNEL. --Mr. Thomas Warren, a son of Mr. Bruce Warren, the well known chemist to the Silvertown company, has been appointed works manager of Messrs. G. H. Scott & Co., Limited. Mr. Warren was for some years manager of the Globe Chemical Co. at Widnes, worked in conjunction with the substitute business at New Mills. Mr. Frank Robinson has been appointed general manager of G. H. Scott & Co. to act under the board. --Mr. Corbishley, for many years at Messrs. Capon Heaton & Co., has been appointed works manager at the Gorton Rubber Co. --The chief management of the Leyland and Birmingham Rubber Co. at present devolves upon Mr. Whithead, a member of the board. This, however, is only for the time being, during the somewhat prolonged tour which Mr. J. E. Baxter is taking in South Africa.

A MARKED difference exists between the owners of works and factories in Great Britain, and I think I may say the Continent generally, and the proprietors of American works with regard to affording strangers opportunities of having a look round. Here it is quite the exception to show any one round unless he happens to be a distinguished visitor having no connection with trade. In America I understand the case is quite the reverse. A visitor from the States recently applied at one of the large Manchester engineering works for permission to view, and on being told that the idea could not possibly be entertained, he replied: "Oh, then, I guess you have nothing to show me." This reply caused a certain amount of irritation and surprise, but the fact is that any stranger preferring such a request in Great Britain is always apt to excite a suspicion that he is not quite fit to be at large. The subject is much too wide and complicated to be discussed here, and I shall not go beyond a mere record of existing conditions.

THE shares of the Palmer Tyre Co., Limited, have been purchased by the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, who held a controlling interest in the former company and for several years had manufactured their tires. The Palmer were among the most successful companies in the tire trade, having paid dividends regularly, and one year as high as 40 per cent. The arrangement under which the Silvertown works manufactured the Palmer tires would have expired within two years, and as the Palmer company had no plant, their shareholders concluded to accept a very favorable offer made by the Silvertown company.

THE amalgamation of The British Insulated Wire Co., Limited, and The Telegraph Manufacturing Co., Limited, has been referred to already in these pages. The title adopted for the joint companies is the British Insulated and Helsby Cables, Limited. Their works are at Prescott, Helsby, and Liverpool. On leaving London to assume the management of the consolidated business at Prescott, Mr. Dane Sinclair was the recipient, on the evening of October 24, of a testimonial in the shape of a dinner from a number of members of the trade, at Prince's restaurant, Piccadilly.

HYDE IMPERIAL RUBBER CO.

THE RUBBER TRADE IN CANADA.

THE International Rubber Co. has been incorporated under letters patent to manufacture, purchase, and sell rubber boots and shoes, and all goods and articles of which rubber is or may be a component part, and the various materials, compounds, and substances entering into the manufacture of any such goods. The capital stock is \$50,000, and the incorporators are John J. McGill, William Strachan, and Adolphe V. Roy, of Montreal; Walter W. Allen, of New York; and Benjamin K. Hotchkiss, of East Orange, New Jersey.

THE WATERPROOF CLOTHING TRADE.

AT a meeting of Montreal manufacturers of waterproof clothing, employing some 600 hands, the following resolution, moved by E. L. Rosenthal, of the Strathcona Rubber Co., and seconded by H. Wener, of the Montreal Waterproof Clothing Co., was adopted:

We, the waterproof clothing manufacturers of Montreal, wish to place ourselves on record as being strongly in favor of adequate protection to Canadian labor in all its branches. We believe the important industry we represent should be duly protected against the slaughtering tactics of the United States manufacturers, and we are equally agreed that the cotton manufacturers from whom we obtain a large supply of our raw material should be adequately protected.

The manufacture of rubber clothing, begun in Montreal some thirteen years ago, was at first fairly prosperous. The manufacturers claim now, however, that prices of goods to the consumer have been reduced one-half since the beginning. The particular grievance at present is that, while manufacturers in the United States have no regular market in Canada, they at times flood that country with goods at a price which would about cover the cost of the cloth. It is doubtful whether the Canadian market is flooded with any cheaper goods in the line of waterproof clothing than are offered constantly by itinerant dealers throughout the United States. During the past month two stores have been run in New York city by a concern hanging out the sign "Goodyear Mackintosh Co.," and advertising waterproof goods at "25 cents on the dollar."

The *Toronto Clothier and Haberdasher* says that nine firms in Canada are engaged in making waterproof clothing, and that last year they employed over 700 hands and produced \$600,000 worth of goods. The industry is protected by a duty of 35 per cent., which has been reduced to 21 $\frac{1}{3}$ per cent. as against British manufacturers. "Last year the value of imports of waterproof garments from Great Britain was \$177,362 and from the United States, \$53,748. The number of garments, however, that came from the United States was much larger than from Great Britain. The increase in duty against the United States is not asked with the object of advancing the price to the Canadian consumer. The Canadian manufacturers ask no advance in tariff against British made garments. They simply ask that the Yankees be not allowed to slaughter their surplus in this market. The Canadian manufacturer will also ask that fancy proof rubber cloth on which there is, at present, a duty of 30 per cent., be placed on a free list, as none of this class of cloth is made or is likely to be made in Canada. If this were done 100,000 garments now imported for ladies' wear from England will be made in Canada. At present there is a duty of 15 per cent. on woolen cloth weighing under 7 ounces to the square yard. This is the cloth which is used for waterproofing, and it is said that all attempts to manufacture it in Canada have failed. It is in fact the raw material for the waterproof garment industry, and as such the manufacturers will ask that the duty be reduced to 7 $\frac{1}{2}$ per cent."

Mr. S. Vineberg, manager of the Scottish Rubber Co., of Montreal, visiting Winnipeg, was quoted by the *Free Press* of that city as not having been represented at the meeting of waterproof makers, and not desiring any change in the tariff on waterproof clothing as against the United States. He said that the slaughtering of American goods on Canadian markets was done only to a very limited extent, and that a higher tariff would be no protection against this.

RUBBER FOOTWEAR MARKET.

THE conditions in the rubber footwear market in Canada [says the *Canadian Shoe and Leather Journal*] are very satisfactory. The business so far this year has been in excess of the same time a year ago, so manufacturers and jobbers report, and there is general satisfaction over the entire results.

CANADIAN IMPORTS OF RUBBER MANUFACTURES.

The value of imports of manufactures of India-rubber and Gutta-percha into Canada during the fiscal year ended June 30, 1902, as officially stated, shows an increase both in the imports from the United States and in the total, as has been the case regularly for several years past:

IMPORTS.	United States	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Boots and shoes..	\$150,616	\$ 159	\$	\$150,775	\$ 36,901.92
Belting.....	29,399	890	...	30,289	7,644.09
Clothing and waterproof cloth.	54,020	179,937	230	234,187	61,073.18
Hose.....	50,903	907	....	51,870	17,853.55
Packing and mats.	37,639	844	505	39,048	13,006.98
Sheeting.....	19,388	50	507	19,951	4,683.08
All other.....	183,253	34,959	30,697	248,909	59,635.84
Total.....	\$525,218	\$217,812	\$31,999	\$775,029	\$201,698.64
Total, 1900-01..	\$434,590	\$154,944	\$ 21,738	\$611,272	\$163,012.44
Total, 1899-00..	401,867	118,111	19,083	539,061	149,006.80
Total, 1898-99..	359,037	119,523	15,130	493,690	134,717.69
Total, 1897-98..	255,525	(a)	147,706	403,231	112,688.41
Total, 1896-97..	209,776	(a)	110,127	319,903	....
Total, 1895-96..	217,536	(a)	139,745	357,281	....

(a) Included in "Other Countries."

The proportion of imports from the United States during the past fiscal year was 67.7 per cent.; in 1897-98 it was 63.3 per cent. The imports of German goods, though not large, show a steady increase. They amounted to \$17,862 in value in 1897-98 and \$30,016 last year—constituting most of the goods from "Other Countries" in the table.

There may also be noted the imports of the following articles, not classified by the Canadian customs as "rubber goods," but having a relation to the industry:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Webbing, elastic and non elastic.....	\$106,881	\$46,170	\$3,687	\$156,738	\$28,352.25
Stockinettes for rubber footwear.....	39,968	6,963	....	46,931	6,693.30
Duck, for rubber belting and hose.....	136,253	1,248	....	137,501	free.
Rubber thread, elastic.	2,263	...	....	2,263	free.

The exports of Canadian rubber manufactures were much larger than in any former year. Their distribution was:

To—	Value.	To—	Value.	To—	Value.
Australia....	\$12,635	Belgium..	\$ 579	United States	\$189,664
Great Britain..	36,824	Chile.....	192		
Newfoundland	26,424	Dutch W. Ind.	117	Total....	\$322,572
New Zealand..	21,540	Germany..	3,019	Total, 1901..	151,656
British Africa.	421	Italy.....	213	Total, 1900..	170,488
Brit. E. Ind..	219	Norway-Swe..	343	Total, 1899..	133,332
Hong Kong..	13	St. Pierre....	25	Total, 1898..	77,685
Brit. W. Ind..	8	Switzerland...	27	Total, 1897..	26,121
Aus.-Hung'y.	4	Turkey....	305		

Such exports to the United States increased from \$57,772, in the preceding year. Australia and New Zealand took more goods, as also did Great Britain.

PROGRESS OF RUBBER PLANTING.

YIELD OF "PARA RUBBER" IN CEYLON.

FRANCIS J. HOLLOWAY writes to *The Tropical Agriculturist* from his estate at Keppitigalla, Matale, Ceylon, in regard to the yield of rubber from his cultivated "Pará" trees. These trees are at an elevation of 600 to 1400 feet, and of the ages of 8 to 11 years; the largest girth one foot above the ground is 47 inches. The trees are not inclined to spread, but grow straight up, with few side branches, and make an excellent light shade for cacao planted 12 × 24 feet, thus giving about 150 trees to the acre. Tapping proceeds throughout the year and each tree has two series of tappings, lasting about two months. Now for results: Writing August 22, 1902, Mr. Holloway had tapped 3903 trees once since October, 1901, obtaining a total yield of 2128 pounds, or a trifle over $\frac{1}{2}$ pound per tree. Some of these trees tapped again, within seven or eight months, yielded as much more, or a total per tree per year of 1 pound. Hence he thinks it safe to estimate an average of $\frac{3}{4}$ pound per tree, or 112½ pounds for 150 trees per year. The principal object of Mr. Holloway's report, however, is to present his estimate of cost of collection. The amount of rubber collected during the first five months of 1902 was 1302 pounds of good rubber and 60 pounds of scrap; total, 1362 pounds. The cost of tapping and curing was 570.63 rupees; packing boxes and transportation 31.13 rupees; and proportionate share of cost of an outfit of collecting tins, tapping knives, and coagulating tins, 36.60 rupees; total cost of placing 1362 pounds of rubber in Colombo, 638.36 rupees. This is equal to about £42. 11s. 2d., or \$207.10, gold. The average cost per pound would work out at 4d. or 15.2 cents. The expenses to London and commissions are not stated, but most of the rubber was sold at 3s. 6d. per pound, and the scrap at 2s., equal to 85½ and 48½ cents, respectively.

IOWA RUBBER CO.

[Plantation near Carmen, state of Campeche, Mexico. Offices: McManus building, Davenport, Iowa.]

INCORPORATED July 18, 1902, under Iowa laws, with \$300,000 capital, divided into shares of \$300. The company hold 1000 acres, lately part of a tract of 937 square miles owned by The Laguna Co., capitalized at \$3,000,000, composed of Iowa business men, and incorporated in Maine. The president of The Laguna Co. is John R. Markley, a Chicago capitalist, who is described as "the pioneer, founder, and manager of the most successful plantation companies ever incorporated"—having reference to fruit growing in the western United States. The Laguna Co. are interested particularly in cabinet hardwood lumber in Mexico, and several members of this company are in the lumber business in Iowa. The Laguna Co. appear to be a thoroughly substantial concern, and, it is stated, "underwrites the stock, guaranteeing the carrying out of the terms of the Iowa Rubber Co.'s contract" to plant 680 trees per acre, with a view to tapping one-half of the trees to exhaustion after a certain date, and leaving 300 permanent trees. "Side crops" are also to be planted. Purchasers of shares of \$300 in cash, or on monthly payments of \$5, are entitled each to the *pro rata* share of one acre in the company's profits. The company make very liberal promises of profit, and subscribers should not be disappointed if these should not be fully realized. It is stated, for instance: "The annual dividend declared for seven years will return original money invested and leave a net profit per share of about \$303.10." The officers are: Frank

M. Hanna, of Clarence, Iowa, president; Fred W. Noel, a lawyer, of Davenport, vice president; and S. H. Noel, of Davenport, secretary and treasurer. The company advise THE INDIA RUBBER WORLD in regard to their land: "It is being cleared now and will be ready for a crop planting in a short time."

"CEARA RUBBER" IN NICARAGUA.

IN regard to the Hacienda La Victoria, of La Paz, Nicaragua, mentioned in the last INDIA RUBBER WORLD (page 57), Mr. George Adler favors us with some additional details. The soil around La Paz is mostly sandy—pumice and volcanic ash or sand—which retains moisture within a few feet of the heat baked surface throughout the dry season. The temperature varies from 80° to over 98°. There is very little rain, and at night during the dry season there is practically no dew. Being familiar with the *Manihot Glaziovii*—the rubber of Ceará—Mr. Adler decided that this location in Nicaragua was well suited for it and purchased 1000 acres of land there under the name of "La Victoria" plantation. In February, 1902, work was begun on the clearing of the undergrowth on 300 acres, and in the last week of April the ground was burned over. After the first rains in May 60,000 seeds were planted, mostly at stake and the rest in a nursery. During June many of the seeds began to sprout and the seedlings had been appearing daily up to the time of Mr. Adler's writing (November 6). At that date the seedlings which had first appeared, being five months old, were 10 and 12 feet in height and 3 to 4½ inches in girth, 6 inches from the ground, which Mr. Adler considers "extraordinary growth even for the *Manihot Glaziovii*." So rapid was the growth of the plants in nursery that many had to be transplanted at the age of four weeks instead of being allowed to remain in the beds for a year, as originally intended. Mr. Adler has found the best results from allowing the sun rays full access to the rubber plants, for then the trunks become full and strong, whereas if any other growth is allowed around the young plants they grow slender and lack strength to support the weight of the leaves. The seeds of this species retain their vitality for a long time. Some have sprouted lately at La Paz a year after planting. One tree there, fourteen months old from planting, is 24 feet high and 14 inches in circumference. Mr. Adler has been "tapping" plants only four months old and is encouraged by the show of rubber.

ECUADOR RUBBER AND DEVELOPMENT CO.

[See THE INDIA RUBBER WORLD, October 1, 1902—page 16.]

IT appears that this company has been organized to plant rubber, on a large scale. Planting has been in progress this year, of a species of *Hevea* abundant on a tributary of the upper Amazon. President Retsloff writes that there are many rubber species in Ecuador, several of which can be distinguished from each other only by experts. Their location is in northern Ecuador, near the Pacific coast. One tract is near La Tola, a town of 1000 population, at the mouth of the navigable river Santiago. Another is on the river Esmeraldas, 38 miles from the mouth, and from the city of Esmeraldas. This is the region, by the way, which furnishes the rubber known as "Esmeraldas," but not from the variety of tree which the new company are planting. President Retsloff writes to THE INDIA RUBBER WORLD from Winnebago City, Minnesota:

"It is the desire and intention of the management to place this company at the head of all rubber producing organizations. With unlimited capital, thorough personal study of

the field by one of our officers for over two years, and the assistance of practical help right in nature's own rubber land, we feel in a position to say that we have the best rubber proposition of the day. We have placed on the market a small block of stock at 25 cents per share, par value \$1, the sale of which has far exceeded our expectations. It will not be long, however, before the price will be advanced. But this company has not been organized for the mere purpose of stock selling, but for actual development, so that any one holding shares in the company will in time look at its management as one of merit and their investment one that will afford them a good profit.

"We have found that planting 500 trees to the acre in our climate produces better results than 300. In tapping for experimental purposes some very young trees planted 500 to the acre, we obtained a greater yield of rubber than from those planted 300 to the acre. Planting so closely that the entire trunk of the tree is protected from the sun's rays, hinders the growth of other vegetation, thereby saving expense in caring for the trees. It also keeps the ground in a more moist condition and thereby furnishes more nourishment for our trees. The tree is not retarded in its growth as when the trunk is exposed to the sun. Strange as it may seem, those planted close together are taller and larger in girth by 20 per cent. than those planted farther apart. It takes longer, however, for the milk to coagulate on those closely planted than on the others. The gum produced from the densely planted tree, moreover, is more free from insects and other foreign substances than the gum on the trees exposed to the sun. The annual rainfall here averages 208 inches.

"We shall add continually to our now already large possessions, and, in the near future, mail you some photographs showing the advancement made, and especially illustrating the rapid growth of a rubber producing tree in our climate; also showing you our method of tapping. The hard woods we are cutting and piling for future shipment will, in the event of the Panama canal being built, be an important source of revenue to our company. The variety is very great, numbering somewhere near fifty species, with ebony and mahogany predominating. Cocoanuts, vegetable ivory, and cacao beans are also a great source of revenue to this country, and will be considered by our company later on. For the present, we shall push the rubber culture to the full capacity of our many employes. Labor is cheap here as compared with the United States. The natives are not lazy, as is generally supposed, but quite industrious when properly treated."

RUBBER TREES IN THE UNITED STATES.

WE have been asked many times whether the "rubber plant" seen in so many conservatories in the United States belongs to any rubber producing species. Dr. N. L. Britton, director of the New York Botanical Garden, assures THE INDIA RUBBER WORLD that this plant is the *Ficus elastica*, which, as is well known, is the source of the Assam rubber of commerce, and is being cultivated extensively in the Malay states, where it is known locally as "Gutta rambong." In this northern latitude the plant naturally is of less rapid growth than in its own habitat, and it fails to show some other characteristics which belong to it in India, where it is one of the largest trees. This plant is usually seen in hot houses growing in the form of a straight stem, but there are specimens in the New York garden 15 and 20 feet high, branching freely—some of them very near the ground—and showing many indications of aerial roots, though here these wither and decay before reaching the ground. In the same collection, by the way, are several specimens of *Ficus elastica variegata*—a plant resembling the Assam rubber plant, except that the leaves are variegated, forming

an attractive decorative plant. Mr. Harry W. Bennett, president of the Tehuantepec Rubber Culture Co., recently experimented with a rubber plant standing in the office of a bank at Hartford, Connecticut, from which he obtained an amount of rubber of good quality, which he considered very liberal for the size of the plant.—There have been added recently to the collections at the New York Botanical Garden several young seedlings of *Castilloa elastica* and one of *Castilloa tunu*—the latter from Brussels. Also specimens of *Landolphia Ovariensis*, from Kew; a Madagascar species of *Landolphia*, from Paris; and *Landolphia Watsoniana* from Brussels. These specimens are all small as yet, but seem to be vigorous. They are kept under glass during the winter at a temperature of 70° F.

RUBBER PLANTING NOTES.

W. S. TODD writes to THE INDIA RUBBER WORLD from Amherst, Lower Burma, September 20: "The growth of the Pará rubber trees (*Hevea Brasiliensis*) has been excellent during the present rainy season, and most of the three year old trees already have permanent branches, which do not disarticulate like the *Castilloa*. The average three year old trees have a clean bole of 15 to 20 feet before the first branch."

—According to Mr. Todd, the vitality of the seeds of *Castilloa elastica* is not so fugitive as various reports would lead people to believe. Last year he imported a few thousand seeds from Mexico, 260 of which he forwarded to Samoa, where 197 developed into healthy seedlings. The transmission of the seeds from Mexico to Burma occupied 99 days, from Burma to Samoa 77 days; total, 176 days. Mr. Todd is not yet prepared to make public his method of packing such seeds for shipment, and he says that everything depends upon how the packing is done.

—Last year La Zacualpa Rubber Plantation Co., in Chiapas, Mexico, obtained from London a shipment of seeds of *Manihot Glaziovii* (Ceará rubber), grown in Brazil, at an expense of £100. Mr. O. H. Harrison stated that a considerable number of seedlings came up two or three months after planting, and that others have been appearing from time to time since—some a year after the seeds were planted.

—The Tehuantepec Rubber Culture Co. (New York) have been sending out notices to the holders of their bonds, looking to the choice, from among their number, of an inspector to visit Plantation "Rubio," in Mexico, in January or February next.

—Grant & Howard, of Salt Lake City, have become state agents in Utah for the Chiapas Rubber Plantation and Investment Co. (San Francisco). Mr. B. F. Grant, of the firm, after a recent visit to Mexico, writes to THE INDIA RUBBER WORLD that he found 7200 acres of young rubber trees growing in the first, second, and third "series" of lands developed on the Chiapas plantation, with a force of men at work opening the fourth and fifth "series," for next year's planting.

—Referring to an inquiry, in THE INDIA RUBBER WORLD of September 1, for Pará rubber seed for experimental planting in Mexico, J. P. William & Brothers, of Heneratgoda, Ceylon, wrote October 1 that they were then prepared to fill orders from the 1902 seed crop, under a guarantee that 50 per cent. would germinate.

—The Salt Lake City *News* contains a mention of "Mr. J. W. Ellsworth, the manager of the Chiapas Rubber company, known in the commercial world as the 'great American rubber king.'" Rubber kings are becoming as numerous as rubber trusts.

—Mr. J. Jackson Todd, president of the Chicago-Bolivian Rubber Co., is on his way to Bolivia, and will spend several months viewing the company's concessions.

VARIABLE SPEED DEVICES FOR RUBBER MILLS.

By J. O. De Wolf.

MANY of the machines in a properly equipped rubber factory are an exception to Shakespeare's saying that "Still constant is a wondrous excellence," for the varying conditions under which they are run have rendered variable speeds necessary and have taxed the ingenuity of our mechanics in this direction.

Without attempting to refer to many of the different kinds of rubber machinery that are rendered more efficient by an easy and economical variation in speed, brief attention will be called to a few of the devices in use. The order in which they are mentioned implies nothing as to relative merit or extent of use of the different types of apparatus, but follows the general order in which the writer became acquainted with them.

Numerous devices are in common use for operating and varying the speed of machine tools, but although many of them are found in connection with the rubber industry, they will not

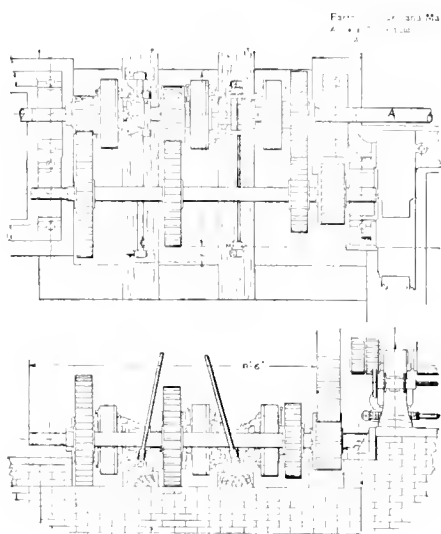


FIG. 1.—THE FARREL CALENDER DRIVE, No. 7.

be described now, but reference will first be made to what is unquestionably the most important machine for which a varying speed is desired—that is, the calender. The form of gearing shown in Fig. 1 is reproduced by courtesy of the Farrel Foundry and Machine Co., and is designed to give three speeds to the calender. The main driving shaft, which runs at a constant speed of from 50 to 75 revolutions per minute, carries three friction clutches attached to gears. Each of these clutch gears is in contact with a gear keyed on the calender-driving shaft. These gears can be proportioned to give almost any three speeds desired, and the change from one speed to another is made by simply throwing in the proper clutch. Starting and stopping is also controlled by the same clutches. It will be noted that with this arrangement it is possible to use but three different speeds, and another, or different, speed cannot be obtained except by removing a pair of gears and replacing them with another pair of a different size and ratio of diameters. There is, however, little to get out of order; the speeds are positive, and for a calender requiring only such changes of speed as the arrangement is capable of, it does its work in a most satisfactory manner. The floor space required by such a device, giving three speeds, is about 8 feet 6 inches in length, parallel to the calender shaft, by 5 feet 6 inches wide. In case only two speeds are desired, one clutch and pair of gears can be omitted, and the floor space would then be shortened to about 5 feet 9 inches long.

In cases where more changes of speed are desired, use has

been made of friction driving devices, the driving surfaces being either discs or cone pulleys. The first of these that will be described is the Evans friction cone, and is in successful use, driving a variety of different kinds of machinery, although none have been applied to rubber calenders. The cut (Fig. 2) shows the principle and construction of these cones, but does not show the attachment to any machine. The two cones have their axes parallel, but are separated from each other by a space about the thickness of the friction belt which transmits the power from one to the other. This belt can be moved longitudinally along the cones by a shipper arranged for that purpose, and the speed thus varied anywhere within the limit for which the cones are made. There is also means for forcing the cones together, so that they will press tightly against the friction belt. In the overhead type of cones this tightening device is operated by a handle similar to an ordinary belt or clutch shipper, and is used to start and stop the machine the same as a clutch. The Evans cones are made to give quite a wide range of speeds and powers, although their use is confined principally to work under 15 or 20 H. P.

Another form of controller that is in successful use is the Consolidated speed controller, shown in Fig. 3, driving a rubber calender. The essential features of this device are a pair of discs with deep annular grooves in their opposed faces. One is fastened to the shaft and the other to a sleeve surrounding the shaft. Between these discs are two friction rollers, supported on bearings separate from the discs, and so arranged that both can be turned simultaneously and made to vary the angles made by their axes with the axis of the discs. The radii of the rollers are the same as the radii of curvation of the annular grooves in the discs. If the friction rollers are set so that the planes of the rollers are parallel to the shaft carrying the discs, and power is applied to revolve one of the discs, then the other will revolve at the same speed in the opposite direction, as the friction rollers are in contact with both discs at the same distance from their axes. Now if the friction rollers are moved so that their axes are not parallel with the main shaft, then they will be in contact with one of the discs nearer its center than their place of contact with the other disc, and consequently the relative speed of the disc will be changed. Pressure between the discs and friction rollers is obtained by a spring operated by a clutch.

The controller shown in the cut is a double one, having, for greater power, two pair of discs and friction rollers instead of one pair; with this machine a maximum speed of five times the minimum speed can be obtained and the floor space occupied is about 7 feet 9 inches long by 3 feet 4 inches wide, including the clutch, which is a part of the device and is used for starting and stopping.

Fig. 3, which appears on the following page, represents an installation in the factory of the Hood Rubber Co.

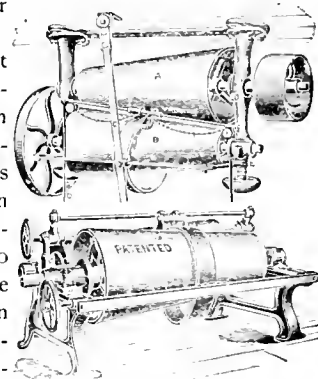
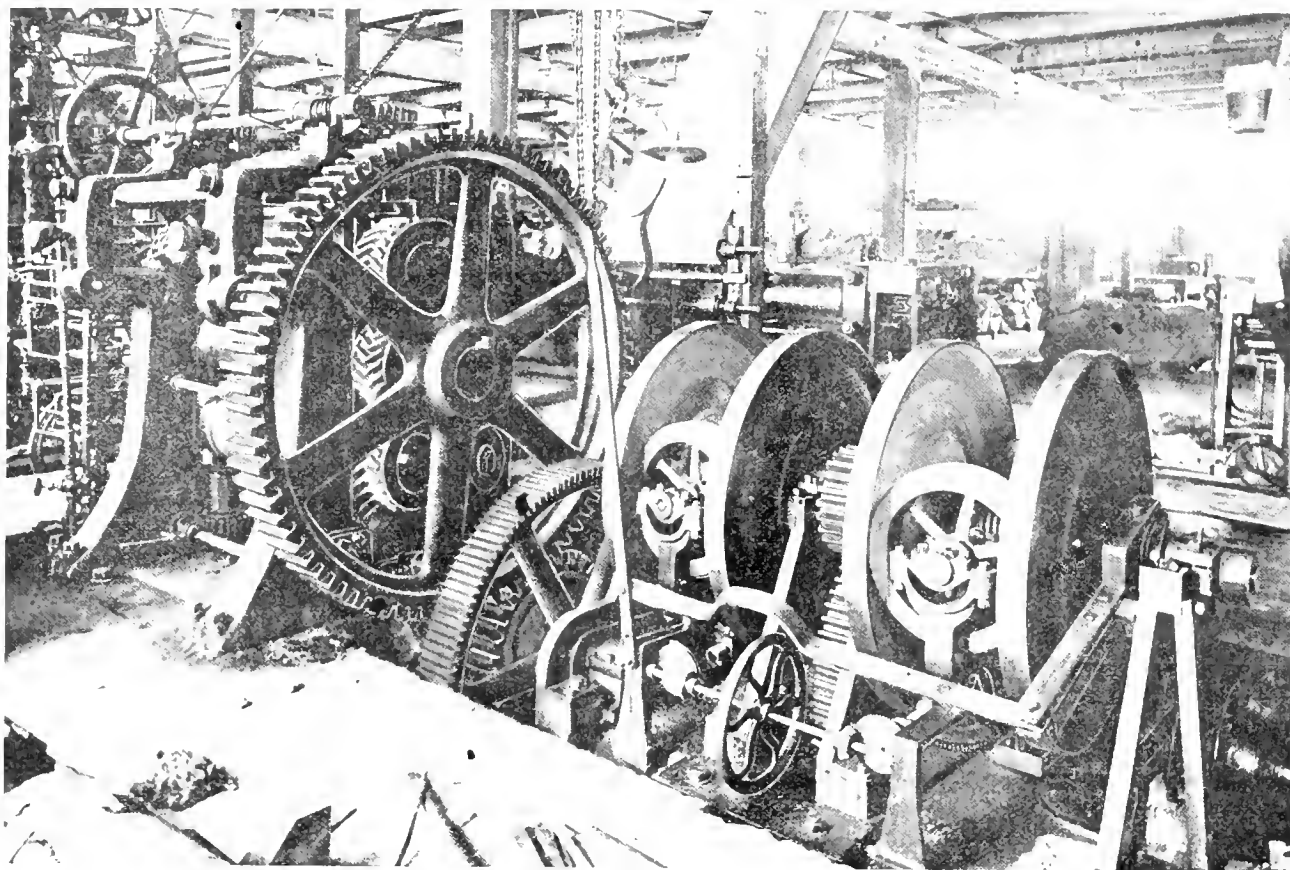


FIG. 2.—EVANS FRICTION CONE.



25 H. P. CONSOLIDATED SPEED CONTROLLER DRIVING RUBBER CALENDER.

[HOOD RUBBER CO.'S FACTORY, EAST WATERTOWN, MASSACHUSETTS.]

NEW CONGO RAILWAY PROJECTS.

STILL another Congo railway is projected. During the past month the Comité Spécial Katanga despatched one of their number, Captain Jacques, assisted by a French engineer, on a mission, the object of which is to plan active work in the construction of a railway, about 500 miles in length, starting from Lake Kisalé, near the source of the Lualaba river, and running in a southerly direction toward the Rhodesian frontier, where it can afterward join the Cape to Cairo line. The Lualaba is the most southern tributary of the Congo, in the province or district of Katanga, and the object of the proposed railway is to open communication beyond the navigable limits of the Congo system, in the south-east. Captain Jacques started on his mission from Naples *en route* for Zanzibar, with a view to reaching the field of his operations from the east coast of Africa.

THE INDIA RUBBER WORLD has noted already the incorporation of a company to construct a railway of 900 miles from the Aruwimi river, in a northeasterly direction, which would open the way to another district exceptionally rich in rubber. The Aruwimi valley was specifically named by the explorer Stanley, some twelve years ago, when, after crossing "the dark continent," he reported the discovery of the coming "world's reservoir of rubber." The development of these projected lines of railway, by the way, should not be looked upon as too remote to justify the present interest of the rubber trade.

Twelve years ago the present Congo railway had not been thought of, and the present Congo rubber production, upon

which is based the important market at Antwerp, had not begun. Following the suggestion of Mr. Stanley, the first Congo railway not only has been completed, but has been in successful and profitable operation for several years, while without the road would be impossible the rubber trade now centering at Antwerp. As the world requires more rubber, and it becomes necessary to invade new fields in search of it, the new railways doubtless will be essential, and THE INDIA RUBBER WORLD may not have to wait longer to record the completion of the two lines here referred to than it did in the case of the line from Matadi to Leopoldville.

NEW TREATMENT OF GUTTA-PERCHA.

AN English patent (No. 18,528—1901) granted to Bertram and Milne relates to improvements in the treatment of Gutta-percha, and has for its object the solidification of the mass and the extraction of air and moisture, which cause bubbles and holes in the manufactured article. A masticator is used which may be of any ordinary construction internally, and provided with a steam jacket to heat the material, and a cover for filling and emptying. The cover and other parts of the machine are made airtight and watertight, and by pumps, ejectors, and other means, a vacuum is produced during mastication. While under the action of the vacuum, the heated material is kneaded and mixed, and with the air completely extracted and the moisture evaporated and removed, a perfectly solid and homogeneous mass of Gutta-percha, without air or other bubbles, is obtained.

THANKSGYVINGE DINNER OF YE NEW ENGLANDE RUBBER CLUBBE.

[OUTSIDE OF THE INVITATION.]

THANKSGYVINGE PROCLAMATION

of ye

Goode Craftsmen

known as ye

New Englände Rubber Clubbe

[INSIDE OF THE INVITATION]

I, AUGUSTUS O. BOURN (*someyme Governor of ye Godly Colony of Rhode Island and ye Providence Plantations*), *President of ye New Englände Rubber Clubbe*, with ye advice and consentte of ye covncil, to wit ye Execvutive Committee (*a careful and righteous body*), do hereby appointte and sett apart ye evenynge of ye 20th day of Novembre as an occasion of *Thanksgyvinge, Myrthe, and Feastyng*.

It is *fittynge* that we all with singleness of ppose and great thankfulness *see* observe the occasion *For* :

Wee have hadd : abundant and prosperous trade.

Wee have hadd : freedom from strykes, conflagrations, and pestylencies.

Wee have hadd : no manifestation of ye workings of ye *Evil One* in ye form of jealousies, heart-burnings, revilings, and back-bytings, which are not seemlie.

Wee have hadd : most wonderful deliuerance and escapes from ye snares and entanglements of ye *Captains of Industrie* known as Charles R. Flynte, ye *Kingge* of ye Belgians, and divers others, who would spoil us of our substance.

Wee have hadd : many other mercies.

Wherefore do I (with ye advice and consentte of ye covncil aforementioned) cite you to assemble att ye goodly house of entertaynement known as ye *Exchange Clubbe*, on ye evenynge of ye 20th of Novembre as ye *Town Clock* strykes six. Ye programme of ye evenynge will be thus arranged :—

Fromme six to six and one-half by ye *Town Clock*, social converse.

Fromme six and one-half, eatynge and drynkinge (in moderation) until ye body be satisfied.

After ye end of ye feastyng will be addresses by worthe citizens, myrthe-producing stories, musick, and much entertaynement.

Kyndly inform ye sectary speedily of your intention to be present with some worthe friend as guest.

Given under my hand and seal this First day of Novembre, 1902.

AUGUSTUS O. BOURN,
President,

By
HENRY C. PEARSON, Sectary.



THE New England Rubber Club scored a pronounced success in its Thanksgiving Dinner at the Exchange Club, Boston, on the evening of November 20, when more than 100 members and guests were gathered for a brief social, an excellent banquet, and after-dinner speeches, music, and stories that marked the evening as a "red letter" one in the annals of this most social of all social clubs. The announcement which called the members together, spelled in the quaint old New England style, appears in full on this page.

All of the printing in connection with the dinner was of the same general style, made up in original designs suited to the occasion. This was carried through the exceedingly original menu, down to the envelopes that held the cigars, which were ornamented with the club seal (designed for that occasion only), and announced that the "segars were furnished by ye ancient and upright tobaconists, Daniel Frank & Co." During the dinner an orchestra from the Boston Cadet Band discoursed music that caught the fancy of the diners, and the choruses that followed showed not only that most of the members were musical, but that they entered heartily into the spirit of the occasion. After the coffee and cigars, President A. O. Bourn called the diners to order and in a happy vein gave a number of reasons why the members of the Club should be thankful.

At the close of his remarks Mr. Fred Hall Jones explained some twenty stereopticon views that served to convulse those present. The title of his illustrated talk was "Recent Rubber History Pertaining to Members of the New England Rubber Club." Certain of these views have been reproduced for THE INDIA RUBBER WORLD and are shown on another page.

At the close of this exceedingly interesting exhibition, which was greeted with much applause and gusts of laughter, Winthrop Packard, Esq., a former Boston newspaper man, talked interestingly on "Ocean Yachting with Tramps," a story of his personal experiences on a cattle boat running from Boston to Liverpool, where he shipped as tramp helper, for an inside view of the business, which, according to his story, he surely got.

The next feature was some high grade minstrelsy in which W. B. C. Fox, a former rubber man, Thomas L. Drew, Thomas Bibber, and Charles W. White, all of Boston Cadet theatrical fame, appeared, and were given an enthusiastic welcome. The songs, "Ma Angeline," "Ma Bamboo Queen," "I'm 'gwine to live anyhow until I die," and others were decided hits.

Then a gentleman who is almost a member of the Club because he is a friend of everybody there—Mr. Thomas E. Stutson—was brought to his feet and told a series of anecdotes that delighted everybody, and brought down the house.

In the meantime, Job E. Hedges, Esq., who is not only a brilliant member of the New York bar, but who has made an enviable reputation as a brilliant after dinner speaker in New York, and who was the guest of honor of the evening, had been

On the back of the "Proclamation," under a picture of "Ye Goode Shippe *Mayflower*," appeared these lines:

Ye Question.

How could soe manie living folk
Come over att one trippe?

Ye Answer.

'Tis said ye goode *Mayflower* was
An India Rubber Shippe.



EX GOVERNOR A. O. BOURN USING HIS NEW PROCESS FOR QUICK VULCANIZATION BY MEANS OF EXPANDING GASES.



A. M. PAUL WINNING HIS SUIT AGAINST CHARLES R. FLINT.



GEORGE M. ALLERTON RUNNING FOR MAYOR OF WATERBURY.



EDITOR PUTNAM, OF THE "BOOT AND SHOE RECORDER," IN THE ACT OF EDIT-



A. H. VEOMANS AS THE MOST DISTINGUISHED AND SUCCESSFUL FISHERMAN IN THE RUBBER TRADE.



W. D. BRACKETT UNIONIZING THE CONCORD RUBBER CO.



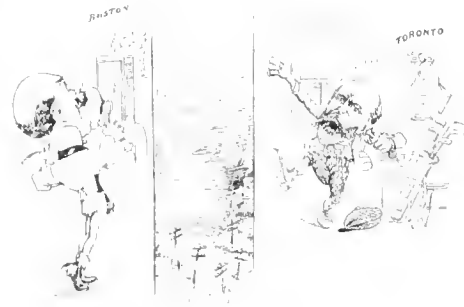
GEORGE P. WHITMORE GUARDING THE FUNDS OF THE NEW ENGLAND RUBBER



W. E. BARKER MAKING A LONG DRIVE AT GOLF.



A. H. ALDEN MOVING HIS FACTORY FROM NEWTON UPPER FALLS TO JERSEY.



OTTO MEYER (BOSTON) TELEPHONING H. D. WARREN (TORONTO) DURING A GOLF GAME.



ARTHUR W. STEDMAN AS AN EXPERT

watching the frolic with an eagle eye. Mr. Hedges evidently believed that all enjoyment is by contrast, and although a noted wit himself, he felt that the audience were prepared to receive a serious message, and he gave it to them, and not only that, but he received the most respectful attention and scored a hit that will long be remembered by all of those present. Mr. Hedges said in part:

I am pleased to be the guest of a business organization, which, while it progresses commercially, progresses intellectually. You have changed an important noun indicative of your trade into a verb, and given that a significance which, when applied to a certain portion of the human anatomy between the head and shoulders, indicates a stage of mind rather than of body. Doubtless in the rubber trade, as elsewhere, you sometimes suffer from overproduction. The entire country is suffering from an overproduction of men who know everything about every known subject, and I appeal to you on behalf of those men who do know so much about anything. It is much easier to tell what might have been had things been different than to do something that ought to be done immediately, regardless of criticisms. No one is entitled to any credit for not violating the law. Nobody but an idiot violates the penal code. All that the law can do for us is to forbid wrong and prevent its commission. It is entirely a matter of sentiment to create formative virtue.

diately, regardless of criticisms. No one is entitled to any credit for not violating the law. Nobody but an idiot violates the penal code. All that the law can do for us is to forbid wrong and prevent its commission. It is entirely a matter of sentiment to create formative virtue.

--- A distinguished gentleman in the early history of the republic wrote a world renowned document in which he said that all people were created equal. So they are, and that equality lasts about a minute and then conditions diverge. Our responsibility, therefore, is according to our opportunities and our endowments. It is frequently said that this is a country of law and order. So it is theoretically. There is no power in all the country, including the police force of the nation, the militia of the states and the federal armies, to preserve order if the people do not wish it. The administrative forces of the nation could be stoned to death by the citizens before they could strike a blow.

We are a nation of sentiment. Precept and example are the staple forces which alone can establish society. Every one is ambitious to save the nation. Reform has come to be a matter of rhetoric. The contentions of the public have resolved themselves into rhetorical contests. What we need are people with red corpuscles in their blood.

Recently there was a contest between the two most strongly entrenched forces in the country, a combination of capital and a combination of labor. The executive of the nation, without authority in law, without any official right by statute, and without any means of enforcing his opinion, compelled these divergent interests to yield to a common sentiment, and, therefore, a national calamity was averted by sentiment and not by law.

--- I am not a pessimist, nor do I believe that the republic is about to be destroyed. It is much easier to remedy an evil when you make the evil the creature of your own rhetoric for the purpose of destroying it and receiving public praise. Social divergencies can only be remedied by the association of interests. We do not do our duty when we obey the law. We can only teach the ignorant citizen his duty by letting him observe our example and listen to our precepts.

The papers recount that at the last election 350,000 votes were cast by that number of people, the tenet of whose political faith was that disorder was better than law, and that people of means should be compelled to divide. No one would dare set a limitation on the amount of money a man can acquire. The man who acquires it owes a duty to society for the ostentatious way in which he uses it, if such ostentation has a tendency to arouse social envy and jealousies.

Personally, I have very positive political convictions and am an adherent of my party's principles. However, that may be, no harm can come to the republic, whichever way a majority of the votes of all the citizens is cast, providing that majority vote is cast by people as a result of moral and political convictions as to what is for the best interests of the republic. If a man will not participate in civic matters as a matter of duty, he must participate therein as a matter of selfish self-protection, or else expect to pay the price in disorganized conditions, unwise administration and public profligacy. Not to have

"LETT GOODE DIGESTION WAITE ON APPETYTE"



LITTLE NECKS
When the first man caught a clam
It is rumored he said d-n!
Sad to tell, he had saved himself such sin.
He had tried the meat within
That hard shell.

SOUP
An epicure was Esau bold,
He proved it when he gladly sold
His interest in the ancestral coop
For just one plate of Jacob's Soup.

FISH
Fishermen all lie about, they taste as well
Trout, yet when cooked they the truth did tell.
As if they the truth did tell.

ROAST
One of old England's proudest boasts
Is of her juicy Sultain Sinner
At our she can hardly suffer
Since most of hers grew over here.

BIRDS
Turkeys, ducks and chickens here
Are the choice of not a few.
Yet real praise is oftentimes heard
Of the tender "small hot bird."

FROZEN PUNCH
Punch brothers, punch, punch without care,
Punch at the Rubber Club, punch everywhere!
Cold as the winter snow, punch, punch
Punch brothers without care.

CHEESE
While some men swear
By Camembert
And others bet on Brie,
Still others love Roquefort
All cheese is good to me.

COFFEE AND CIGARS
Before we part, with laughter,
Song and joke,
Let's drink a cup of coffee, and blow
A cloud of smoke.

voted is to have emasculated your public virtue. Not to have a political opinion, based on conviction and supplemented by personal effort, should be taken as an admission of mental incompetency and barren virtue.

I seek to leave with you the thought that rhetorical combat is a loss of time. That merely to tell what should be, without helping to carry it out, is egotism. That to criticise others for what they did, even though it may be unwise, when one may himself have done nothing, is idle vamping. What we need, therefore, is fewer people who think they think and more people who act while their neighbors are satisfied with the consciousness of high motive.

After Mr. Hedges's speech, Messrs. Fox, Drew, Bibber, and White appeared again and the evening's entertainment was then brought to a close.

Telegrams and letters of regret were received from about 50 members of the Club who were unable to be present, one of the brightest of them being from Mr. H. D. Warren, president of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, which was read by Governor Bourn during the course of the dinner, and was thoroughly enjoyed by the listeners.

THE TEXTILE GOODS MARKET.

NEVER in the history of the rubber trade has the demand for textile fabrics been of greater volume than during the past month. In seasons past rubber manufacturers have called for their supplies fully as early as during the first two months of the present season, but they have been satisfied with small quantities with which to start. Not so this year. Where contracts have been made by rubber manufacturers for cotton ducks they have been asking for immense quantities at the start, and in every instance quick deliveries are demanded. THE INDIA RUBBER WORLD has said before that these annual contracts have called for a much larger quantity than in former years, but it is predicted that if the demand keeps up throughout the year anywhere near as it has commenced, it will be seen that even the most optimistic anticipations of the consumers did not reach the maximum consumption.

Not a few buyers were inclined to express a little fear lest they had made a mistake in contracting for goods at such a comparatively high price level. This, however, was while raw material was gradually easing off in price, but since cotton has been recovering its lost ground and is today only a few points below the level when contracts were made, these purchasers have felt more at rest. The recent decline in cotton was quickly caught up by those who had refused to make a yearly contract as an argument to strengthen their position, but the prop has been knocked from under them. In its last issue THE INDIA RUBBER WORLD reported that some of these hand-to-mouth buyers had been paying in some instances $3\frac{1}{2}$ cents a pound more than those who had made yearly contracts, but the writer is able to announce this month that one concern in particular, has since paid 5 cents a pound in excess of the contract price. This manufacturer has recently been in the market and bought a good sized quantity of belting cloth for which he paid the above mentioned excessive figure.

Perhaps the most important feature in connection with the textile division of the market this month is the Canadian trade. For years the United States has been supplying the rubber manufacturers of Canada with their cotton duck, and is doing so at the present time. Yearly the business has been increasing, until now when it has reached formidable proportions. This season the Canadian manufacturers have been

buying more heavily than heretofore, and some who have never patronized American manufacturers have become good customers. And it should be said at this juncture that the general impression among American rubber manufacturers that the Canadians are getting their cotton ducks at a lower rate than our home consumers, is without foundation. The writer has been asured by one of the largest sellers to the Canadian trade that the latter are paying fully as much for their goods as are the consumers in this country.

But to such an extent has the business between the American manufacturers of cotton duck and the Canadian rubber manufacturers grown, that a movement has been started in Canada to block it as far as possible. Cotton ducks are the only cotton fabrics that the Canadian government exempts from duty. All other cotton finished goods are taxed a duty of 25 per cent. There are but two cotton duck manufacturers in Canada, but the production of these is about equal to the consumption by the manufacturers of belting and rubber goods. These concerns have recently instituted measures tending to the absolute control of the cotton duck trade. They are going to put an embargo on American goods by introducing a measure in the Canadian parliament in February which will result in a tariff of 25 per cent. on cotton ducks as well as on all other cotton fabrics. That is, they are going to accomplish this if they can. But the American manufacturers have not been asleep. They are taking steps to thwart the designs of the Canadians, and it remains to be seen whether the latter will succeed. Should the Canadian tariff laws be so altered as to make this class of goods dutiable, it will have considerable effect upon the manufacturers of American textiles, as all contracts have been made for the coming year, on the basis of no duty.

Manufacturers of rubber footwear showed a disposition during the early part of November to ignore the fabric market, owing to the continual decline of raw cotton, which they were perfectly justified in doing. They were in need of sheeting, but were inclined to see raw material touch bottom before they operated in the finished goods market. During the latter part of the month, however, when cotton began to show signs of recovering its lost ground, the rubber people became more numerous as buyers, and have been taking some fairly good stocks. The market for brown sheetings and osnaburgs at present is tending in the buyer's favor and prices on the various lines are a fraction lower than they were last month, as will be seen by the following quotations:

Forty inch, 2.50.....	6 $\frac{1}{4}$ cents.
Forty inch, 2.70.....	5 $\frac{7}{8}$ cents.
Forty inch, 2.85.....	5 $\frac{1}{2}$ cents.
Forty inch, 3.60.....	4 $\frac{3}{4}$ cents.
Thirty-six inch, 3-yard.....	5 $\frac{1}{8}$ cents.

Manufacturers of fabric hose have been drawing on their contracts for yarn during the past month quite heavily. Spinners of cotton duck yarns are well employed, and have orders sufficient to keep them going for some time in the future. Sellers have been inclined to hold their yarns at a little higher figure than last month, despite the weakness shown by the raw material market until very recently, when it has been showing some signs of recovering. It is not known, however, that prices have undergone any quotable changes.

RUBBER druggists' sundries from the United States are in good demand in Chile, according to the consul for this country at Valparaiso. The glassware used in the drug trade, however, comes mostly from Europe, being lighter in weight than the American. Rubber plasters from the United States are used largely.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE "CLINGFAST" THUMB STALL.

A THUMB cot or stall that is having a very large run, among letter carriers, press feeders, bookbinders, bank clerks, and many others, is that shown in the accompanying illustration. It is very similar to the "Clingfast" finger cot in its make up; that is, the part that stands the greatest amount of wear is reinforced, while the thin lower portion clings to the thumb where the pressure is not felt. This special reinforcement, by the way, is the invention of the company who produce these goods, and who are to-day the sole manufacturers. [The Huron Rubber Co., Cleveland, Ohio.]

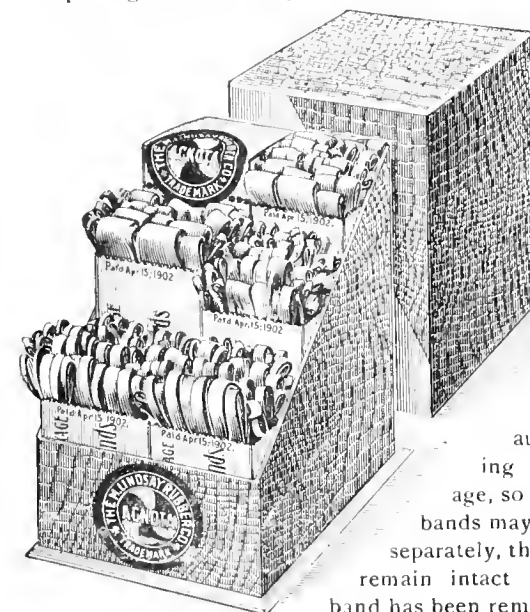


"AGNOTA PACKAGES" OF RUBBER BANDS.

Two illustrations herewith relate to a new method of putting up rubber bands, in an unusually convenient shape for use in



the office, at home, in a traveler's bag, and so on. The smaller cut illustrates a package containing one gross of rubber bands.



The package comes completely sealed and provided with a perforated end, the removal of which is easy and gives access to the contents. The package is of cellular construction, with an automatic closing inner package, so that while the bands may be withdrawn separately, the package will remain intact until the last band has been removed. Thus a marked advantage is afforded over the use of bands packed loosely in a box and liable to spill and get lost. The name "Agnota package" has been adopted for this device, and a patent has been applied for. These packages are sold at the same price as rubber bands packed in the usual way. In the larger cut is shown a cabinet made up of six "Agnota packages," of assorted sizes of rubber bands, in a box—a most convenient and compact arrangement for the desk of a business man or clerk. These goods are on sale very generally in the stationery trade, but may be obtained at wholesale or retail from the

manufacturers. [The M. Lindsay Rubber Co., Washington, D. C., and No. 298 Broadway, New York.]

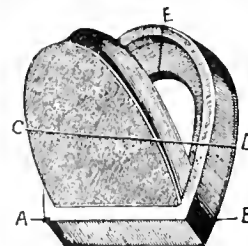
THE "CALUMET" RUBBER HORSESHOE.

THIS is essentially a drop forged steel socket, into which is fixed a pair of replacable rubber heel calks which serve as cushions and give the proper frog pressure. Around the toe is set a strip of fiber rubber, molded under enormous pressure, which acts like sandpaper to prevent slipping. The combination of removable rubber cushion heel and fiber toe, together with light metal frame in contact with the hoof, makes practically a perfect shoe. There is no slipping in any kind of weather, on any kind of road; hence, a steady tread, better speed, no interfering, no wrenching, no hoof diseases—in fact a comfortable minded and sound horse. The construction of the shoe makes it light enough for the carriage horse and sufficiently strong for the truck horse, and it can be fitted cold by any blacksmith. [Calumet Tire Rubber Co., Chicago, Illinois.]



THE REVERSIBLE RUBBER HEEL.

THIS device consists of a light shell of metal fastened to the heel seat of a shoe, by means of small screws or tacks, and a removable and reversible tread portion of rubber pressed in the shell, in which it is firmly held by the elasticity of the rubber, which will be slightly compressed in the process of insertion, and capable of being raised as it wears away by washers of any suitable material, interposed between the shell and the upper side of the tread portion of rubber. One advantage is that the rubber portion can be reversed as soon as one side is worn out. It can also be removed from one shoe to the other so that it can wear evenly in every part. On being worn out completely, it can be replaced by another rubber heel. [The Reversible Rubber Heel Co., No. 2109 Notre Dame street, Montreal, Canada.]



"FAULTLESS" WATER BOTTLES.

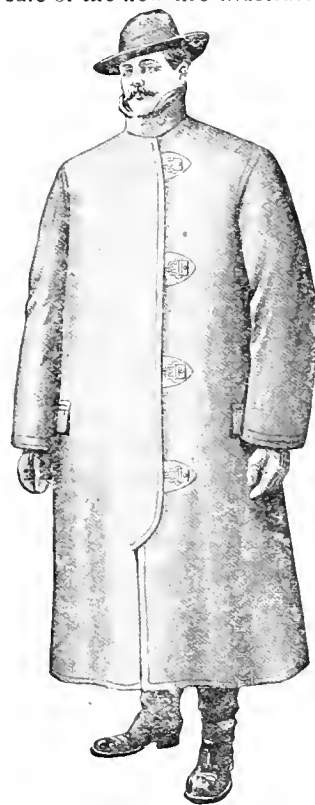
THE hot water bottle illustrated herewith is not only made of material of good quality—to prevent cracking, breaking, or opening at the seams—but is reinforced by an outer covering which not only protects it from injury but gives it an attractive appearance. This cover is held firmly in place but it can be quickly and easily detached, which, for sanitary reasons, is a great advantage. These water bottles are made in five sizes, with four different grades of covers—silk, flannel, mercurized, and foulard—but the interior bottle is the same in all grades. They cost more than other bottles, but it is with the idea that on account of superior durability they will still prove less expensive than any other. Patents have been applied for. [Faultless Rubber Co., Akron, Ohio.]



THE STEIN "BIKE WAGON" TIRE.

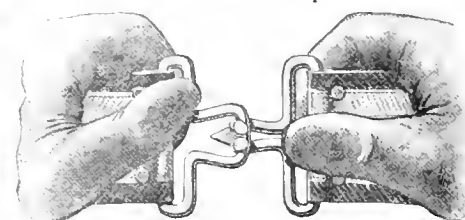
THIS tire consists of a partially folded circumference of solid rubber within which, and projecting beyond which, is a strong layer of fabric. By means of steel flanges on either side of the rim, and a series of bolts three inches apart, the tire is held in place. This tire is designed for "bike wagons" and light automobiles, having the resiliency of a pneumatic tire without its liability to puncture. It is the invention of Charles Stein, whose former tire patents are the basis of the Stein Double Cushion Tire Co., of Akron, Ohio, whose factory lately began operations. The same company will control the manufacture and sale of the new tire illustrated herewith.

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THE AUTO-LOCK CLASP.

A NEW clasp that has come into large use already for rubber coats, duck coats, and particularly for garments worn by firemen, is that shown in the accompanying illustrations. It is essentially a "quick hitch" appliance, working automatically, and never getting out of order. Unlike many others, it fastens with a pull, does not unlock by accident, and does not need either wrench or twist to accomplish



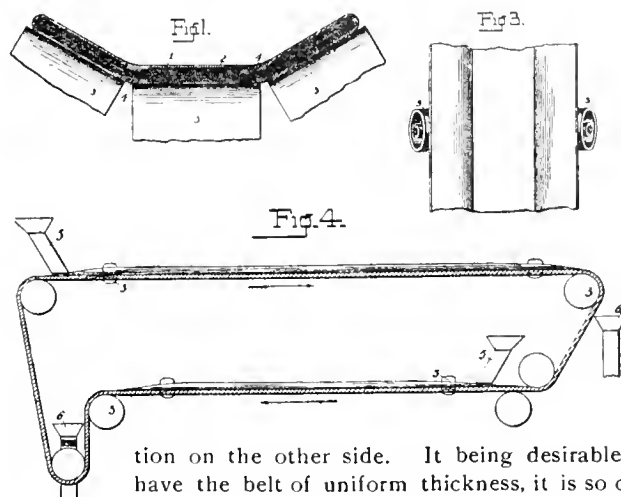
its release. This device has been indorsed by the chiefs and members of the fire departments of many large cities. [The Auto-Lock Clasp Co., Buffalo, New York.]

A NEW RUBBER SPONGE.

A RUBBER sponge of American manufacture, and that in color is exceedingly attractive, and has the even sponginess that characterizes the best foreign make, has just been received by the Editor of THE INDIA RUBBER WORLD. The color is a little brighter than is shown in the sponges commonly sold, and under tests the sponge seems to be very durable, and yet soft and pleasant to the touch. [Chicago Tire and Rubber Co., No. 329 West Kinzie street, Chicago.]

RIDGWAY'S PATENT BELT CONVEYOR.

IN the construction of this belt the object has been to secure a maximum of resistance to wear and also to adapt it for use on both sides. Some other belts having been found liable to wear along the lines of bending to an undesirable extent, the rubber cover in the Ridgway belt is made thicker along the line on which the belt is to be bent when in operation. Thus in the case of a belt to form a flat bottomed moving trough, with upwardly inclined sides, the rubber is made thicker along two sides, between the center and the edge portion of the belt, where the flat bottom meets the upwardly inclined portions. By making similar thickened portions on both sides of the belt it may be used equally well on both sides. When one side is worn out it may be reversed and the other side used, or a belt may be used in one part to carry in one direction on its upper side and in another part to carry in the opposite direc-



tion on the other side. It being desirable to have the belt of uniform thickness, it is so constructed that wherever the rubber is thicker the fabric insertion is made correspondingly thinner. In the accompanying drawings, Figure 1 is a vertical section of a con-

veyor belt embodying this invention and showing it in position on the supporting rolls. Figure 2 is a vertical section of the belt in flat condition. Figure 4 represents the application of such a belt to conveying in both directions. Still another cut is a plan view of the belt, showing the relation of the casing or cover of rubber and the core or insertion of fabric. Patents on this belt have been issued to John J. Ridgway, of Rosebank, New York, in the United States, No. 707,355, and in Great Britain, No. 12,968—1902. [John A. Mead Manufacturing Co., No. 11 Broadway, New York.]

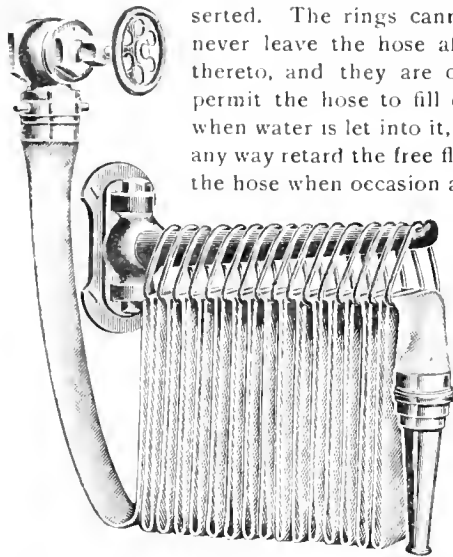
A NEW RUBBER SOLUTION.

THERE has been placed upon the market in England a specially prepared dry form of India-rubber, in tins, designed as a base for solution for making electrical joints. All that is necessary for the user to do, in order to obtain a solution in a workable state, is to fill up one of these tins with naphtha, stirring it and leaving it to stand twenty-four hours. There will then be found the weight of India-rubber solution indicated by the label on the tin. One reason for the introduction of this new article is that rubber solution is subject to a very high freight rate, on account of being classified by the carriers as inflammable. The rubber as prepared above, however, can be transported at ordinary rates. The trade mark "Solvo" has

been registered for this new preparation. [The General Electric Co. (1900), Limited, 66-88, Queen Victoria street, London.]

BOYD SWINGING HOSE RACK.

In this device the rings by which the hose is suspended have an opening in the lower side, through which the hose is inserted. The rings cannot be lost, as they never leave the hose after being attached thereto, and they are of sufficient size to permit the hose to fill out to full diameter when water is let into it, and they do not in any way retard the free flow of water through the hose when occasion arises for the use of

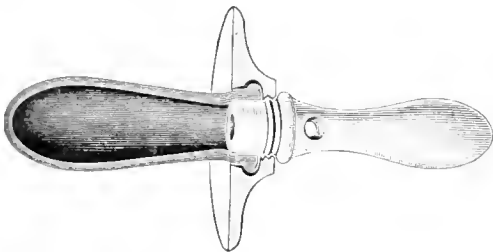


the same. These racks possess a great improvement over such hose holding devices as have a lot of loose pins or pegs which fall to the ground when the hose is removed and are liable to become broken or lost.

These racks are made in aluminum finish or any color enamel; in two sizes, with either wall plate or pipe clamps, to hold up to 50 feet or to 100 feet of unlined linen hose. Protected by United States patent No. 699,656, issued May 13, 1902. [Cliff & Guibert Co., No. 198 West Broadway, New York.]

"THE LITTLE MOTHER" BABY COMFORTER.

In the construction of this device a leading feature has the securing of the rubber nipple to the holder and handle in such manner as to make their accidental separation impossible. At the same time has been kept in mind the construction of an

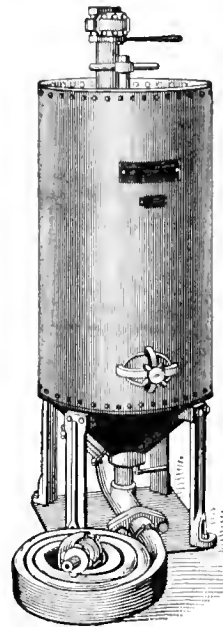


article simple, durable, and inexpensive. The cut shows a sectional view, through the nipple, holder, and handle, illustrating the method of securing the parts together. The handle is screwed to the disk which serves as a guard, the nipple being held firmly in place by reason of its bead-edged neck becoming engaged between the other two parts of the device. An important sanitary advantage is that the edges of the nipple are protected against gathering bacteria. If desired, instead of a handle in the form shown in the cut, the guard may be provided with a pendant ring. This device is the subject of United States patent No. 699,757—May 13, 1902. [Whitall Tatum Co., Nos. 46-48 Barclay street, New York.]

THE SAND BLAST IN RUBBER WORK.

THERE are a great many places in the rubber factory where the sand blast machine has made itself useful; for example, in the cleaning of couch and squeeze rolls, so that the rubber will adhere to them, there is nothing better than the sand blast, or that is half so quick and economical. The greatest use of the blast, however, in connection with the rubber manufacture, will be in mold cleaning. It is well known that

in all mold work, some preparation is needful to keep the rubber from adhering to the mold during vulcanization. The usual dry ingredient employed is French talc, and its wet alternative is soft soap. After a time, the use of either of these produces a fine smooth scale on the interior of the mold, and



not only modifies the size of the product obtained from it, but, by chipping, damages the goods. When a mold gets too much filled up to produce good goods, it is cleaned, usually by cutting away the scale and finishing off with emery paper. This, of course, refers only to iron or steel molds, as soft metal molds may be melted up, and the scale passes off as dross. A great many plans have been suggested to do away with the old fashioned method of scale removal, most of them taking the form of liquids to dissolve the sulphur, talc, or soap scale, and not affect the metal, but, as a matter of fact, none of them has proved successful, and it is just here that the sand blast comes in. The machine as a rule is used in a room about twelve feet square fitted with a system of air exhausts which help to keep the atmosphere clear. Where the men work in the room, it is necessary

for them to wear helmets. For ordinary mold cleaning, however, the work can be done on a canopied table, fitted with an exhaust underneath, which carries the sand away and saves it. For coarse work the sand should be hard and tough, not too fine, thoroughly dry, and cool. A very fine silica is good for molds. The machine shown in the accompanying illustration, of the Paxson-Warren type, is durable and economical. It has no inside hopper; every part is accessible; and all pieces liable to wear can be replaced. The top is cone shaped, and has a valve opening for sand in the center, while the discharge is regulated by another valve at the bottom. In the use, the sand and air are conducted through a length of hose to the nozzle, and against the piece that is to be cleaned. About 12 feet of hose is usual, but any length up to 50 feet is practical. The usual equipment with this machine is one helmet, one nozzle, twelve tips, and twelve feet of hose. [The J. W. Paxson Co., No. 1021 North Delaware avenue, Philadelphia.]

"RIGBY" WATERPROOFING PROCESS.

THE Rhode Island Worsted Co. (Indian Orchard, Massachusetts), manufacturers of piece-dyed and fancy worsteds, are mentioned as making use of the Rigby process in the manufacture of waterproof goods. A letter from the company to THE INDIA RUBBER WORLD states: "We are making cravenettes; also using it on piece-dyes, black and blue, for ladies' and gentlemen's wear." The United States Treasury department has allowed, on the exportation of such goods as are referred to, a drawback equal in amount to 99 per cent. of the duty paid on any imported cloths used. THE INDIA RUBBER WORLD of April 1, 1898 (page 195), mentioned this as a secret process discovered by an Englishman, John S. Rigby, but not patented, and sold by him to Canadian parties, and in turn to the Rigby Waterproofing Co., incorporated by New Yorkers under New Jersey laws, with \$300,000 capital. H. Shorey & Co., of Montreal, are manufacturers of Rigby waterproof garments and also of cloth waterproofed by the Rigby process.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED OCTOBER 7, 1902.

- N**O. 710,562. Pneumatic tire for vehicle wheels. Pierre de Caters, Berchem, near Antwerp, Belgium.
- 710,595. Cushion tire. Charles Miller, Binghamton, New York.
- 710,688. Manufacture of rubber hose pipes, rubber tubing, or the like. George E. Heyl-Dia, Warrington, England.
- 710,750. Golf ball. Richard B. Cavanagh, Washington, D. C., assignor by mesne assignments to The Kempshall Manufacturing Co.
- 710,751. Golf ball. *Same.*
- 710,752. Golf ball. *Same.*
- 710,753. Golf ball. *Same.*
- 710,754. Golf ball. *Same.*
- 710,755. Golf ball. *Same.*
- 710,793. Pneumatic tire. Frank Mitchell, London, England.
- 710,817. Apparatus for placing insertions in rubber articles. Benjamin A. Stevens, Toledo, Ohio.
- 710,839. Non interfering horseshoe. Jefferson T. Broach, Churchland, Virginia, assignor of one half to J. W. Bidgood, same place.
- 710,864. Water bag. Daniel Hogan, New York city, and Christian W. Meinecke, Jersey City, N. J., assignors to Meinecke & Co., New York city.

Trade Marks.

- 38,987. Rubber boots and shoes. Russian-French India Rubber, Gutta percha, and Telegraph Works, "Prowodnik," Riga, Russia.
- 39,007. Solid rubber tires. The Goodyear Tire and Rubber Co., Akron, Ohio.

ISSUED OCTOBER 14, 1902.

- 710,962. Pneumatic tire. Rudolph Fleischer and Matthias Reithmair, Minden, Germany.
- 710,971. Rubber tire. Charles W. Harris, Akron, Ohio.
- 710,999. Hoof pad. Elias W. Powers, Chicago, Illinois.
- 711,063. Horseshoe. Walter B. Merck, Ocala, Florida.
- 711,081. Vehicle wheel tire and fastening. Arthur L. Stevens, New York city.
- 711,177. Playing Ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
- 711,178. Playing ball. *Same.*
- 711,215. Manufacture of playing balls. Eleazer Kempshall, Boston, Massachusetts.
- 711,227. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall, Manufacturing Co.
- 711,228. Playing ball. *Same.*
- 711,229. Playing ball. *Same.*
- 711,230. Playing ball. *Same.*

ISSUED OCTOBER 21, 1902.

- 711,474. Playing ball. Henry S. Chapman, Glenridge, New Jersey.
- 711,475. Horseshoe pad. Daniel Conroy, Baltimore, Maryland.
- 711,482. Cushion for billiard or pool tables. Daniel W. Delaney, New York city.
- 711,508. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
- 711,529. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
- 711,530. Playing ball. *Same.*

Trade Marks.

- 39,061. Certain named seamless rubber goods. The Miller Rubber Manufacturing Co., Akron, Ohio.

ISSUED OCTOBER 28, 1902.

- 711,980. Machine for equipping vehicle wheels with rubber tires. Alvaro S. Krotz, Springfield, Ohio, assignor to Consolidated Rubber Tire Co.
- 712,033. Wheel tire covering. Harry Barnard, Hamilton, Canada.
- 712,157. Nipple for nursing bottles. Charles A. Tatum, New York city, assignor to Whitall Tatum Co.
- 712,179. Tire fastener. Ralph M. Connable, Baltimore, Maryland.
- 712,188. Dress shield. Gertrude M. Grant, Chicago, Illinois.
- 712,213. Atomizer. Albert H. Tatum, New York city, assignor to Whitall Tatum Co.

- 712,214. Atomizer. Charles A. Tatum, New York city, assignor to Whitall Tatum Co.
- 712,354. Cheek expanding pad. Thomas C. Best, Chicago, Illinois.
- 712,387. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
- 712,388. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
- 712,411. Golf ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
- 712,412. Playing ball. *Same.*
- 712,413. Golf ball. *Same.*
- 712,414. Playing ball. *Same.*
- 712,415. Playing ball. *Same.*
- 712,416. Playing ball. *Same.*
- 712,437. Rubber boot or shoe. Augustus T. Schermerhorn, Newhope, Pennsylvania.

Trade Marks.

- 30,130. Golf balls. The Kempshall Manufacturing Co., Arlington, New Jersey.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

APPLICATIONS—1902.

[* Denotes Applications from the United States.]

- 18,673. Herbert Sefton Jones, 322, High Holborn, London. Method and means for uniting India rubber and leather. [Firma Koch & Palm, Germany.] Aug. 25.
- 18,707. John Churchman Robertson, Govan, Scotland. Golf ball. Aug. 26.
- 18,729. Arthur Sydney Bowley, 185, Fleet street, London. Apparatus for cutting cloth, India-rubber, sheet metal, and the like. Aug. 26.
- * 18,734. Walter Ira Gregory, 11, Southampton buildings, Chancery lane, London. Vehicle tire. Aug. 26.
- 18,737. John Baker, 45, Southampton buildings, Chancery lane, London. Rim for rubber vehicle tire. Aug. 26.
- 18,738. Walter Freeman Ware, and Wright Ralph Cartledge, 45, Southampton buildings, Chancery lane, London. Elastic stocking. Aug. 26.
- 18,745. Jacques Charles Haines and William Edward Huber, 18, Buckingham street, Strand, London. Tire and means for fastening the same to vehicle wheels. Aug. 26.
- 18,794. Edward Brice Killen, Belfast. Non puncturing pneumatic tire having a continuous tread. Aug. 27.
- 18,999. Wilhelm Ring and Franz Haver Mayr, Penny Bank chambers, Halifax. Syringe. Aug. 29.
- * 19,016. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Vehicle tire. [Franklin Greenawalt Saylor, United States.] Aug. 29.
- 19,022. Herbert Barron, 33, Cannon street, London. Improved kettle and life buoy. Aug. 29.
- 19,062. Henry Holt, Roath, Cardiff. Combined rubber and leather heel for boots and shoes. Aug. 30.
- 19,127. Thomas Cockburn, Newcastle-on-Tyne. Golf ball. Sept. 1.
- 19,188. John Ewing, Jr., 46, Lincoln's Inn Fields, London. Instantaneous inflating device for collapsible life belt. Sept. 1.
- 19,321. Edward Brice Killen, Belfast. Non puncturing pneumatic tire having a continuous unwearable tread. Sept. 3.
- 19,326. Ernest Edwin Daniels, 31, Cornwall buildings, Bath. Daniel's buoyant rubber heel. Sept. 3.
- 19,337. James Rivers Sherman and Thomas Harrison Lambert, 38, Chancery lane, London. Golf ball. Sept. 3.
- 19,376. Thomas Higginson, Manchester. Heel pads for boots and shoes. Sept. 4.
- 19,410. Frederick Walter Baynes, 22, Glenwood road, Catford, London. Tire for bicycles and other vehicles. Sept. 4.
- 19,411. Joseph Thomas Wicks, 6, Oakfield road, Clapton, London. India-rubber tube and hose as gas and liquid conveyors. Sept. 4.
- 19,498. Walter Percival Werhered, 70, Chancery lane, London. Pneumatic tire and inflator therefor. Sept. 5.
- 19,582. Thomas Kenning, 322, High Holborn, London. Pneumatic tires. Sept. 6.
- 19,614. Naomi Wood, Manchester. Pneumatic tired wheel for cycles and vehicles. Sept. 8.
- 19,629. William Ellison Rowlands, Liverpool. Golf ball. Sept. 8.
- 19,754. Alfred Tobler and Henri Samuel, 18, Buckingham street, Strand, London. Tire. Sept. 9.

- 19,755. George Henry Hickson, 18, Buckingham street, Strand, London. Heel pad for boots and shoes. Sept. 9.
- 19,763. John Norval, Glasgow. Fixture for rubber pads for heels and soles of boots and shoes. Sept. 10.
- 19,798. Ernest Edwin Daniels, Walcot, Bath. Daniel's revolving silent rubber heel. Sept. 10.
- 19,818. Frederick Cook, 6, Bream's buildings, Chancery lane, London. Horseshoe. Sept. 10.
- 19,826. Philip Harris Hare, 173, Fleet street, London. Appliance for preventing puncture of pneumatic tires. Sept. 10.
- 19,916. Walter Beale and Thomas Gascoigne Beale, Northampton. Rubber revolving heel pad for boots and shoes. Sept. 12.
- 20,038. Andrew Bruce MacLean, 62, St. Vincent street, Glasgow. Golf ball. Sept. 13.
- 20,039. *Same*. Golf ball. Sept. 13.
- 20,040. *Same*. Golf ball. Sept. 13.
- 20,041. *Same*. Golf ball. Sept. 13.
- 20,042. *Same*. Golf ball. Sept. 13.
- 20,043. *Same*. Golf ball. Sept. 13.
- 20,044. *Same*. Golf ball. Sept. 13.
- 20,045. *Same*. Golf ball. Sept. 13.
- 20,046. *Same*. Golf ball. Sept. 13.
- 20,047. *Same*. Golf ball. Sept. 13.
- 20,048. *Same*. Golf ball. Sept. 13.
- 20,049. *Same*. Golf ball. Sept. 13.
- 20,081. Albert Edvard Jens Valdemar Johan Thielgaard, 46, Lincoln's Inn Fields, London. Improvements in the process of devulcanizing Caoutchouc, India-rubber, Gum elastic, and similar materials. Sept. 13.
- 20,087. Frank Reddaway and Jabez Muckett, Manchester. Means for securing pneumatic tires upon wheel rims. Sept. 15.
- 20,167. John Thomas Kellett, John Buchanan, and Howard Natali, 71, Robsart street, Brixton, London. Grooving machine for golf balls. Sept. 16.
- 20,253. Robert William Edlin and Finlay Sinclair, Birmingham. Pneumatic tire for bicycles and other vehicles. Sept. 17.
- 20,314. George William Johnson, 47, Lincoln's Inn Fields, London. Valve for pneumatic tires. [Edonard Dubied & Cie., Switzerland.] Sept. 17.
- 20,373. Lyster Cole Baker, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Covering for pneumatic tires. Sept. 18.
- 20,380. Ernest Jarman Morrison, Broughton House, Newport Pagnell, Bucks. Pneumatic rubber tire. Sept. 18.
- 20,405. John C. Cole, 11, Southampton buildings, Chancery lane, London. Wheel and tire for road vehicles. (Date of application in United States, September 23.) Sept. 18.
- 20,410. Robert Thompson and Joseph Patrick Higgins, 11, Southampton buildings, Chancery lane, London. Elastic tire for vehicles. Sept. 18.
- 20,471. Rudolph Johannes Reuter and Albert Brookes Vobe Taffs, 55, Chancery lane, London. Improvements in syringes and enemas. Sept. 19.
- 20,489. Hiram Eugene Leigh, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Anti-slipping device for horseshoes. Sept. 19.
- 20,506. Henry George Ryland, 22, Southampton buildings, Chancery lane, London. Cushion tire for wheels of cycles and vehicles. Sept. 19.
- 20,516. Benjamin Frederick Cockep, Sheffield. Golf ball. Sept. 20.
- 20,467. Pneumatic tire. Baldrey, R. J., Ootacamund, Nilgris, India. May 20.
- 20,858. Pneumatic tire. Germain, E., 11, Boulevard Magenta, Paris. May 25.
- 20,934. Pneumatic tire protector. Hughes, T. C., Redditch, Worcestershire. May 28.
- *11,020. Hoof pad. Buck, J. A., No. 346 Kosciusko street, Brooklyn, New York, United States. May 28.
- 11,103. Hoof pad. Boulderstone, H. E., Heaton Chapel, near Stockport, Lancashire. May 30.
- 11,149. Devulcanizing India-rubber. Heyl-Dia, G. E., Warrington, Lancashire. May 30.
- 11,238. Rubber coated materials. Edwards, E., 65, Chancery lane, London. [Oxylin-Werke, Actiengesellschaft, Piesteritz, Wittenberg, Germany.] May 31.
- 11,399. Non puncturable and slipping pneumatic tire. Tatham, R., 42, Chelverton road, Putney, London. June 4.
- 11,421. Pneumatic tire. Sexauer, W., Gronsdorf, near Munich, Bavaria, Germany. June 4.
- *11,428. Rubber heel. Rooney, H. F., Randolph, Massachusetts, United States. June 4.
- 11,446. Rubber balls. Berstorff, H. G., and Meyer, E. A. H., Hanover, Germany. June 4.
- 11,494. Pneumatic tire cover. Reddaway, F., Pendleton, Manchester. June 5.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1902.

- 136,693. Process for the production of durable elastic substances containing albuminates. A. W. H. F. Chr. Clauson-Kaas, Copenhagen, Denmark. Oct. 1.
- 136,861. Pneumatic tube of rubber with insert of woven material for air tires on motor vehicles. Alexander Black, Glasgow, Scotland. Oct. 1.
- 136,967. Collapsible air tubes for boats. Adolf Rey, Bischheim, near Strassburg. Oct. 8.
- 137,153. Tubular mouth piece for a syringe, made of metal, hard rubber, glass, or porcelain. Haydn Brown, St. John's wood, London, England. Oct. 15.
- 137,217. Process for making seamless rubber dress shields. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Wimpasing, Austria. Oct. 15.
- 137,329. Process for making elastic tires and tire covers. Oscar Schaefer, London, England. Oct. 15.

PATENTS WITH MODELS FILED.

- 183,732. Corset with inserted rubber gores, and side lacings under the forward parts. R. Haensel, Freibergsdorf. Oct. 1.
- 183,431. Rubber suction disk with rim running out to points for artificial teeth. Gustav Wolf, Krefeld. Oct. 1.
- 183,722. Caoutchouc strengthened with woven wire for dental work. E. H. William Gorn, Hamburg. Oct. 1.
- 183,543. Vaginal syringe. A. Baumert, Berlin. Oct. 1.
- 183,874. Double walled vulcanizing vessel with detachable heating jacket. Firma Julius Pintsch, Berlin. Oct. 1.
- 184,300. Breast-holder (substitute for corsets). Wilhelm Julius Teufel, Stuttgart. Oct. 8.
- 184,157. Field book portfolio with fastenings of rubber bands which also serve to hold the paper. Karl Frey, Freiburg. Oct. 8.
- 184,167. Music string portfolio in book form of which the cardboard leaves are strung on rubber cords which connect the covers. Franz Seith, Munich. Oct. 8.
- 184,090. Abdominal band for men and women with medicated wool between the layers, and elastic connections over hips. Emil Hohm, Oberwürschnitz near Stollberg. Oct. 8.
- 184,223. Pasteboard packing box with side flaps adapted to be closed with rubber lacings and a button. J. G. Schürig, Grosshörsdorf. Oct. 8.
- 184,855. Lever switch for damp places, with handle covered with soft rubber hose, which at same time forms a seal for the opening in the box through which the handle protrudes. Reinhold Stange, Leutersdorf, and Reinhold Schillack, Ober-Oderwitz. Oct. 15.
- 184,726. Rubber finger stall for turning leaves with roughened surface and ventilating holes. Claude Isaac Michaelson, and Solomon Selig Stungs, Edinburgh, Scotland. Oct. 15.
- 185,091. Appliance for supporting vehicles with rubber wheels. Wagenbau-anstalt und Wagen fabrik für Electriche-balmen (vormals W. C. F. Brush), A.-G. Baitzen. Oct. 22.

PATENTS GRANTED.—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 9,688. Means for winding elastic webs. Riddett, J., and Riddett, H. J. (trading as Riddett & Son, J.), Prospect road, Leicester. May 9.
- 9,900. Pneumatic tire. Rath, M., 4, Seymour terrace, Anerley, Surrey. May 13.
- 9,920. Purifying India-rubber. Thame, J., and South Western Rubber Co., 20, High Holborn, London. May 13.
- 10,012. Pneumatic tire protector. Samson, A., 6, Vaughan road, Brixton, and Walker, J. S., 4, Lombard court, London. May 14.
- 10,082. Pneumatic tire repairer. Matschull, E., Königlich Schmelz, near Memel, Germany. May 15.
- 10,253. Pneumatic tire. Almond, J., and Almond, A. E., Levenshulme, Manchester. May 17.

THE LATE RICHARD BUTLER.

RICHARD BUTLER, founder of the Butler Hard Rubber Co., died on November 12, after a long continued illness, in the Hotel Renaissance, in New York. He was born at Birmingham, Ohio, August 9, 1831, being a descendant of Richard Butler, one of the earliest settlers of Hartford, Connecticut. His father, Cyrus Butler, removed from New England to Utica, New York, and thence about 1820 to Norwalk, Ohio, of which town he was one of the founders, afterward representing it in the state legislature. At the age of fourteen, his father having died, Richard Butler went to New York. A year later he became employed in the importing house of A. W. Spies & Co. After five years spent here, at the age of 21, he became connected with the house of W. H. Cary & Co., then the largest firm in the notion trade in America. In 1859 he became a partner in the firm, later changed successively to Cary, Howard & Sanger and Howard, Sanger & Co., and going into liquidation in 1879.

Mr. Butler then turned his attention to the hard rubber business, which was due to his firm having been selling agents for the Rubber Comb and Jewelry Co. He bought an interest in this company,* became its president, and in 1883 reorganized it as the Butler Hard Rubber Co., with \$300,000 capital. The factory was located in a New Jersey village which now became known as Butler, and the warehouse was at No. 33 Mercer street, New York, which continued to be Mr. Butler's business headquarters until the spring of 1898. At that time the Butler Hard Rubber Co., the India Rubber Comb Co., and the Goodrich Hard Rubber Co. were merged into a new corporation known as the American Hard Rubber Co., with \$2,500,000 capital. The old offices of the India Rubber Comb Co., No. 11 Mercer street, became the headquarters of the new company, and Fritz Achelis, of the Rubber Comb company, its president and active head. Mr. Butler was elected vice president of the consolidated company, which position he retained until about two years ago, when he retired from all business.

Mr. Butler was one of the founders and a trustee of the Metropolitan Museum of Art, a member of the Chamber of Commerce, and a life member of the New England Society. He was secretary of the committee for the erection of Bartholdi's statue of Liberty on Bedloe's island, and he achieved the success of the undertaking after twelve years of hard work. The French government for his services made him a chevalier of the Legion of Honor. He served eight years on the staff of

* From Myer Dittenhoefer, now president of the Vulcanized Rubber Co. Mr. Dittenhoefer organized the company referred to, in 1876, in connection with Solomon S. Sonoeborn. This was not Mr. Butler's first interest in rubber, by the way. His firm, while known as Cary, Howard & Sanger, were the largest dealers in "shirred" or "corrugated" rubber goods in the United States, and were sued at one time by Horace H. Day for alleged violation of certain rights which he claimed under an old license from Charles Goodyear to manufacture goods of this class. It may be added that the original building of the plant acquired by Mr. Butler was first used by Horace H. Day as a rubber factory, early in the latter's connection with the industry.

General Ward in the First brigade of the New York state militia, and was appointed captain and subsequently major. He was a generous patron of art and at one time had one of the finest galleries of paintings in the country, mostly the work of American artists. He was a member of the Union League Club and chairman of the art and house committees, and had been one of its vice presidents. He also belonged to the Century Association, Grolier Club, Racquet Club, the Ohio Society, the Metropolitan Academy of Design, and the Mendelssohn Glee Club.

Mr. Butler was married twice. His first wife was Miss Clough, by whom he had three daughters. Of these two survive—Mrs. George Glaenzer, and a younger daughter, who was married last year in Massachusetts. A third daughter married Chester Hasbrouck, of New York, and died some years ago. Mr. Butler was a widower for some years, and married a second time five years ago. His second wife was Mrs. H. A. Hascall.

Richard Butler had a younger brother, named Cyrus, who also became connected with the firm of Cary & Co., in time as a partner, but left it to engage in another business and died several years ago. Their sister, who was adopted by William H. Cary, taking his family name, and becoming his heir, survives.

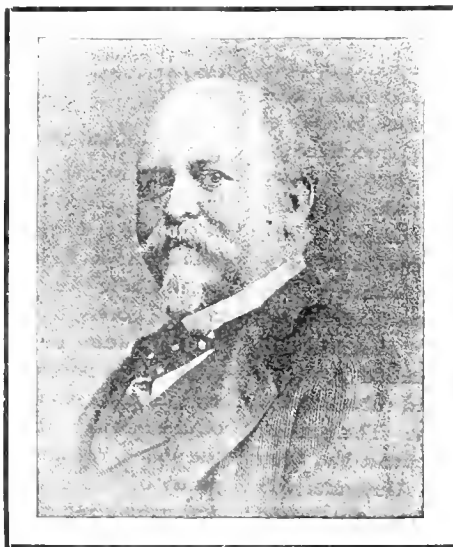
Funeral services were held at the Collegiate church, Forty-eighth street and Fifth avenue, New York, on Friday morning, November 14, at 11 o'clock. The interment was private.

In all of his business relations Mr. Butler was a man respected for his strict integrity and for quick and wise decisions. He was a strong man in every sense, and, what is rare with strong characters, was universally

loved. Of fine appearance and courtly manner, he was the typical New York business man, and at home, in business circles, or at the most exclusive of the metropolitan clubs, bore himself ever with grace and dignity. He was successful in business, and, as a rubber manufacturer, exerted an important influence in the industry.

* *

MR. SAMUEL NORRIS, who died on November 17 at his residence at Bristol, Rhode Island, was the father of Samuel Norris, Jr., secretary of and counsel for the United States Rubber Co. Mr. Norris was born in Boston in 1827, being the son of Captain John Norris, a merchant sea captain. He became an expert in the manufacture of firearms, and during the civil war supplied many guns for the United States army. Later he went to Europe where, for several years, he represented E. Remington & Sons, making large contracts with foreign governments for the sale of their rifles. He was presented to the emperor of Austria, and was decorated with the Spanish order of Isabella. He introduced wood paving in London, Paris, and Budapest. He took pride in having been among the first to appreciate the merit of the Mauser rifle, having met and encouraged the inventors in Austria.



RICHARD BUTLER.

THE INDIA-RUBBER TRADE IN GERMANY.

AT the general meeting of the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, at Harburg a/d Elbe, on October 25, the directors presented their report for the thirtieth business year of the company, ending June 30, 1902. In spite of the business depression which has been reported to exist in Germany for two or three years past, this company makes a most favorable showing. This was due in part to the lower cost of crude rubber during the year. It is mentioned, by the way, that considerable purchases were made immediately after the failure of a large crude rubber house in New York. The opinion is expressed that prices of Pará rubber will become higher, though this will depend upon consumption in the United States. All the works of the company were fully employed during the year, in all departments, in spite of the smaller demand, especially for technical (mechanical) goods, both in Germany and in Austria. In the latter country had to be considered not only universal bad trade, but a disturbance of business due to expected tariff changes. The export trade of the company, however, was brisk, and made necessary the extension of their manufacturing facilities. For instance, a new 350 H.P. steam engine was installed in the works at Harburg. The directors express regret that the German tariff commission had decided to recommend a duty of 100 marks per double hundredweight on imported rubber shoes, instead of 120 marks, as desired by the company. The present rate is 60 marks. The rubber ball price agreement had been continued during the year, with good results. Alexander von Schriber was elected to the board to fill the vacancy caused by the death of G. A. Lappenberg, one of the directors longest in service.

The net profit during the year amounted to *M* 1,775,032.57 (= \$426,457.75), and was disposed of as follows:

Net Profit for the year	<i>M</i> 1,775,032.57
Dividend 5 per cent. on the entire Capital	300,000.00
	<i>M</i> 1,475,032.57
Less 10 per cent. Commission to the Directors	147,503.26
	<i>M</i> 1,327,529.31
Add Balance from profits of 1900-01	119,888.94
	<i>M</i> 1,447,418.25
Dividend 10 per cent. on entire Capital	1,140,000.00
	<i>M</i> 307,418.25
For Workingmen's Funds	<i>M</i> 100,000
Officers' and Workingmen's Jubilees	25,000
Officers' Pension Funds	40,000
	165,000.00
Balance to 1902 03	<i>M</i> 142,418.25

The result is a total dividend for the year of 24 per cent.—a figure which has not been exceeded more than two years in the history of the company. Below is a comparative statement of the company's net profits for eight years past, and on this page is given the balance sheet for 1901-02:

YEARS.	Net Profits.	Capital.	Dividends.
1894-95.....	<i>M</i> 1,226,942.00.....	<i>M</i> 4,500,000.....	22%
1895-96.....	1,667,731.00.....	4,500,000.....	29%

BALANCE SHEET, JUNE 30, 1902.

VEREINIGTE GUMMIWAAREN-FABRIKEN, HARBURG WIEN.

ACTIVE.		PASSIVE.	
Fixed Property	<i>M</i> 2,641,321.82	Share Capital	<i>M</i> 6,000,000.
Land	847,668.78	First Emission	450,000
Water Power	129,707.00	Second Emission	450,000
Buildings	1,663,855.24	Third Emission	1,050,000
Movable Property	1,645,423.55	Reserve Fund Account	3,101,865.
Machinery	1,451,250.93	Second Reserve Fund Account	375,250.44
Utensils and Furniture	241,172.62	Security Account:	
Material and Manufactured Goods	5,406,797.51	Hypothecated for Bank Credit,	
Raw Material	3,450,617.49	not at present in use	450,000
Finished Goods	1,947,780.02	Dividend Account	1,492.50
Cash, Bills of Exchange, and Effects	263,380.17	Dividends outstanding, 1899-00	52.50
Cash	51,127.70	Dividends outstanding 1900-01	1400.
Bills of Exchange in hand	108,453.19	Credits	2,543,475.08
Stock	13,799.28	Profit and Loss Account	1,894,921.51
Debits	3,960,081.48	Balance from 1900-01	119,888.94
Total	<i>M</i> 13,917,004.53	Net Profit for 1901-02	1,775,032.57

1896-97.....	1,759,059.00.....	4,950,000.....	20%
1897-98.....	1,352,598.87.....	4,950,000.....	24%
1898-99.....	860,644.67.....	6,000,000.....	12%
1899-00.....	1,336,631.99.....	6,000,000.....	17½%
1900-01.....	1,489,537.05.....	6,000,000.....	26%
1901-02.....	1,775,032.57.....	6,000,000.....	24%

GUMMI-WERKE "ELBE," ACTIENGESellschaft.

A FINANCIAL group in Hamburg, through the Kommerz und Diskonto-Bank, has purchased the greater part of the shares of the above named factory. It will be remembered that this company was formed originally as the Oxylin-Werke, Actiengesellschaft, for the purpose of making "oxolin," or "perchoid," goods, by the directors of the Leipziger Bank, which in 1901 went into liquidation. There was a reorganization early in the present year, as the Gummi-Werke "Elbe," with a view to the manufacture of hospital sheeting and certain lines of mechanical rubber goods. But so long as the majority of the shares remained in the hands of the Leipzig bank the prosperity of the company was rendered impossible. Under the new management, however, the company, well financed, and with large orders in hand, expect to be able to show good results. A meeting of shareholders was to be held on November 18, to amend the by-laws, elect a new board, and decrease the capitalization of the company.

RUBBER STEALING IN GERMANY.

THEFTS of raw rubber are reported to have occurred from the rubber factory in Cologne-Dentz, amounting in value to 84,000 marks. The stolen goods were sent partly to Holland, whence through middlemen they were again sent to Germany. Thirteen arrests have been made, including several women, some of them abroad, and a second hand dealer in rubber has been released on furnishing bail in a large amount.== On October 20 the criminal court in Hanover acted on the case against the workman, Adolf Giese, charged with robbing his employers, the Continental Caoutchouc- und Guttapercha-Co., of rubber tire covers and tubes, which he sold through middlemen to a bicycle dealer. He had taken 150 covers, worth from 27 to 31 marks each, and the bicycle dealer had paid 15 marks for them. Giese and the bicycle dealer and one other were sentenced to six months' imprisonment, and a fourth party to five months.

THE Leipsic branch of the Continental Caoutchouc- und Guttapercha-Campagnie (Hanover), has been removed to larger quarters at Weststrasse, 39. The stock of "Continental" pneumatics has been increased and the repair shop enlarged.

NEWS OF THE AMERICAN RUBBER TRADE.

ATLANTIC INSULATED WIRE AND CABLE CO.

INCORPORATED July 1, 1902, under New Jersey laws; capital, \$150,000. For factory purposes a three story building has been leased at Stamford, Connecticut, with a floor area of about 60,000 square feet, which is being equipped with new, up to date, machinery of the most approved type for the manufacture of rubber insulated wires and cables—submarine, aerial, and underground—for electrical purposes. The equipment of the factory is almost completed, and the company expect to begin filling orders by the middle of December. The officers are Edward Sawyer, president and treasurer; E. H. Johnson, vice president and factory manager; J. M. Woolsey, secretary; George F. Porter, for ten years past secretary and treasurer for the National Electric Light Association, and for the past five years closely allied with the wire and cable business, having been latterly with Mr. W. R. Brixey, has been appointed manager of sales. The principal office is at No. 120 Liberty street, New York.

TIRE PATENT SUIT SETTLED OUT OF COURT.

THE suit filed by the G and J Tire Co. (Indianapolis, Indiana) against The Diamond Rubber Co. (Akron, Ohio), for alleged infringement on the patents covering the "G & J detachable tire, reported in THE INDIA RUBBER WORLD for October 1 (page 27), was settled without being carried to trial. The basis of the settlement, it is understood, is the recognition by the Diamond company of the validity of the G & J patents, in return for which the Diamond company have been licensed to manufacture detachable double tube vehicle tires under these patents. It is reported that no other licenses will be granted under these patents.

SUBMARINE CABLE FOR EXPORT.

THE instructions of the United States treasury department dated August 1, 1896, providing an allowance of drawback on wire rope manufactured from iron or steel wire, have been extended to cover submarine cable manufactured for export by the Safety Insulated Wire and Cable Co. (New York), the core of which consists of copper wire, rubber, and other domestic materials, and in the further manufacture of which the "steel armor wire" used was in part imported as such and in part was manufactured from steel rods wholly imported.

RUBBER STATIONERY FOR NEW YORK CITY BUREAUS.

THE contract for furnishing stationery—including rubber goods—for the use of courts and the departments and bureaus of the city of New York, and of the counties comprised within the city limits, for the year 1902, was awarded on October 28 to the L. W. Ahrens Co. The bids were presented in December last [see THE INDIA RUBBER WORLD, January 1, 1902—page 110], but the award was delayed by legal technicalities constantly presented in the interest of rival bidders.

CONVENIENT LOCATION FOR RUBBER WORKERS.

A REAL estate development company in Akron, Ohio, in advertising building lots for sale, appeals particularly to rubber workers, and points out that the lands in question are within walking distance of eleven rubber factories, so that employes of these works living in that quarter of the town could save time and expense in getting to and from their work. There are lots within 500 feet of one factory, and none more remote than 1½ miles from any factory on the list. It is further pointed out, by the plausible real estate "boomers," that a rub-

ber worker never knows when he may "get a better job" at some other plant, and, living in this central location, change of employers would not make necessary a change of residence.

THE VULCANIZED RUBBER CO.

THE officers of this company were pleasantly surprised, a few days after the laying of the corner stone of their new factory, as reported in the last INDIA RUBBER WORLD, at the receipt of an engrossed and framed testimonial from the company's employes, worded as below. The engrossing, an artistic piece of work, was done by Mr. G. E. Van Buskirk, one of the foremen at the factory, and the whole forms an attractive ornament to the walls of the company's New York office.

RESOLUTIONS ADOPTED BY THE EMPLOYEES OF
THE VULCANIZED RUBBER CO., MORRISVILLE, PA.

OCTOBER 18, 1902.

WHEREAS: We the employes of said Company desire to extend to the Officers and Board of Directors our sincere and earnest thanks for the unexampled generosity shown us on the occasion of the laying of the corner stone of the new factory at Morrisville, Saturday, October 18, 1902, and to emphasize our desire that the agreeable relations existing be more firmly cemented and always maintained;

Resolved, That these resolutions be engrossed, framed, and presented to the Officers and Board of Directors.

COMMITTEE.

A. M. SAWYER, Superintendent.

John T. Rugaber, Sup't. Comb Dep't.	F. Taylor, Office Manager.	Oscar F. Beck, Stock Dep't.
C. Nolan,	G. E. Van Buskirk,	F. Peze,
W. Carman,	T. Lister,	T. Quincey,
C. Parsons,	G. Goldenbaum,	P. Doherty,
E. Sutterley,	T. Young,	G. L. Smith,
G. Jenkins,	E. Newman,	F. Wieland,
	S. L. Merideth.	

EXPORTS OF AMERICAN AUTOMOBILES.

THE value of exports of automobiles from the United States during the twelve months ended September 30, 1902, was \$1,008,555. Exports during October were at a larger rate. Two shipments made to London, amounted to \$20,067 and \$25,647, respectively. One shipment to Havre amounted to \$6102 and one to British Africa to \$5895. There were shipments also to Southampton, Liverpool, Hamburg, Lisbon, Mexico, Cuba, China, Hong Kong, British East Indies, New Zealand, and elsewhere. It has been estimated that at least half the American automobiles exported are equipped with rubber tires made in this country.

AN INDEPENDENT CHEWING GUM COMPANY.

LARGE as the business of the American Chicle Co. has become, it does not include all the chewing gum manufacture based upon Chicle. The Treasury department some time ago issued an order allowing a drawback on duties paid on Chicle imported by the Newton Gum Co. (San Francisco, California), on proof of the use of the material in the manufacture of chewing gum for export. Mr. George F. Newton, secretary and manager of the company mentioned, informs THE INDIA RUBBER WORLD: "We use from three to five carloads of Chicle per year in the manufacture of our chewing gums. We are an independent company and in no way connected with the American Chicle Co." During the fiscal year ended June 30, 1901, imports of Chicle at San Francisco were reported for the first time, amounting to 47,243 pounds.—The American Chicle Co. are reported to be earning at the rate of 15 per cent. on

their common stock, in addition to the 7 per cent. guaranteed on the preferred. Since April 1 monthly dividends of 1 per cent. have been declared on the common. A new plant at Newark, New Jersey, it is stated, will be ready by February 1.

FORTY-FOUR YEARS A RUBBER MAN.

THOMAS S. JUDSON died at Matteawan, New York, on November 10, in his 70th year. He was born at Newtown, Connecticut, and became employed in a rubber factory at Sandy Hook with which the late Henry A. Alden was connected. Forty-four years ago Mr. Alden went to Matteawan as super-

intendent of the New York Rubber Co.'s factory, and Mr. Judson's connection with the works dated from the same time. When Mr. Alden died, in 1882, Mr. Judson became superintendent of the mechanical goods department of the factory, which position he held until his death. Mr. Judson was a director of the Matteawan National Bank and a trustee of the Matteawan Savings Bank.

For several terms he held the office of village president, and he had been the town supervisor. The funeral, on November 13, was attended with Masonic honors, and the interment was at Fishkill. The rubber works were closed for the day, many of the employes attending the funeral. Mr. Judson was survived by his wife, two sons, and a daughter—all of Matteawan, and several brothers and sisters in Connecticut. Mr. Judson was not only one of the successful pioneer superintendents in the rubber industry, but was a loved and trusted employe in the substantial company with which, for so many years, he was so closely connected. His whole life and thought were centered about the plant that he, as a faithful helper, had helped to create, and his loss is keenly felt throughout the whole organization.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 25	3,470	19 ³ / ₈	18	1,350	58	56
Week ending Nov. 1	350	18	17 ¹ / ₂	670	55	54 ¹ / ₈
Week ending Nov. 8	700	17 ¹ / ₂	17	550	57	54
Week ending Nov. 15	1,990	17	15 ¹ / ₂	720	54	51
Week ending Nov. 22	525	17 ¹ / ₂	16	510	54	52 ¹ / ₂

RUBBER GOODS MANUFACTURING CO.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 25	14,360	25 ³ / ₈	23	2,780	73	71 ¹ / ₂
Week ending Nov. 1	5,110	24 ¹ / ₄	22 ³ / ₄	400	73 ¹ / ₂	72 ¹ / ₂
Week ending Nov. 8	3,200	24	22 ¹ / ₄	1,450	72 ¹ / ₄	71 ¹ / ₂
Week ending Nov. 15	3,855	22	19 ¹ / ₂	410	70	69
Week ending Nov. 22	5,450	24 ¹ / ₄	20 ¹ / ₂	800	72 ¹ / ₄	71

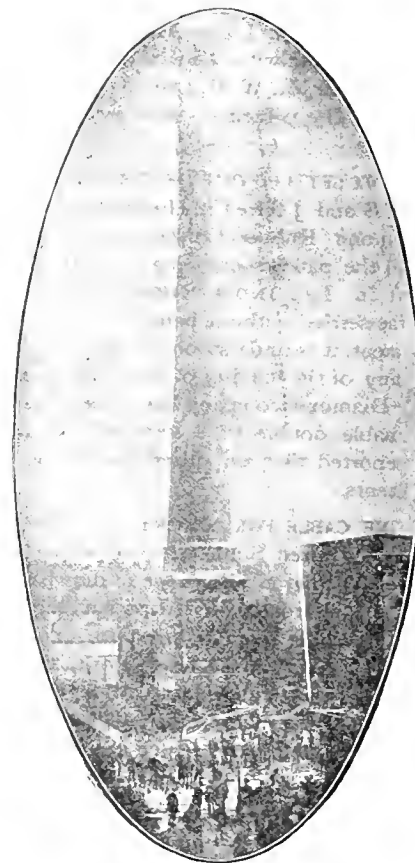
The fifteenth regular quarterly dividend of 1³/₄ per cent. on the preferred shares will be payable December 15, to holders of record December 3.

THE CAMP RUBBER CO. (ASHLAND, OHIO).

THIS company, lately incorporated, is now completing a four story building, 50×150 feet, of fireproof tile construction. This construction is the invention of Mr. H. B. Camp, the president of the company, who has made a fortune out of it. The company is also putting up a separate power house, and the mill will be equipped electrically throughout. The other officers are L. W. Camp, vice president; C. E. Campbell, secretary; and T. W. Miller, treasurer and general manager—the latter being also the active head of the Faultless Rubber Co., of Akron.

A TEST OF "EUREKA" FIRE HOSE.

THE National Cash Register Co. recently purchased 1200 feet of 2¹/₂-inch "Eureka" fire hose, to be used on its outside fire system at Dayton, Ohio. In order to give this hose a thorough trial under pressure, an interesting test was made at



TEST OF EUREKA FIRE HOSE.

the new powerhouse of the company. Two lines of hose from the pump were attached by means of a two-way Siamese connection to a hose pipe having a two-inch nozzle, and an attempt was made to throw a stream of water over the stack of the powerhouse, 175 feet high. The pump delivered water at a pressure of 190 pounds, and the stream was thrown within 20 feet of the top of the stack. A three-way Siamese connection was then substituted for the two-way, and, with the three hose lines discharging into a two-inch stream, water was thrown over the top of the stack. The photograph reproduced on this page was taken just as this was accomplished.

The force of this stream was so great that, with a special holder attached to the pipe, six men were necessary to manage the hose. Had it not been for a brisk breeze which was blowing at the time, which broke the stream of water to a considerable extent, it is probable that the water would have been thrown to a greater height.

HOOD RUBBER CO.'S JOBBERS.

THE Western Association of Hood Rubber Co.'s Jobbers, organized in the spring of 1901, still maintains an active existence. A meeting was held in Chicago on November 21, at which there was a full attendance. It was presided over by J. G. Olmstead, of Bentley & Olmstead (Des Moines, Iowa), president of the association. Edward I. Aldrich, selling agent for the Hood Rubber Co., was present. It was voted to hold the annual meeting in Chicago during the first week in January. It was resolved to demand of the Hood company that the same re-

stricted contract now in force be continued during 1903, with a heavy penalty for violation by any member. Also, that goods be catalogued during 1903 at net prices, the jobbers to sell to the retail trade at said net prices. Also, that at the January meeting prices be considered for the season, and methods adopted to protect members against any cutting on Hood rubbers.

MR. ALLEN RETURNS TO CHICAGO.

CHARLES B. ALLEN has returned from Boston to Chicago, where, until the end of 1901, he was in charge of the sale of "Woonsocket" rubber boots and shoes. He resumes his old position there on this date (December 1), while Mr. H. G. Armstrong, who, during the year, has been in charge of the office, is transferred from Chicago to the New York offices of the United States Rubber Co.

BELTING AND PACKING COMPANY CHANGES.

ALDEN S. SWAN has been elected president of the New York Belting and Packing Co., Limited—a position vacant since the death of John H. Cheever, in July of last year. Mr. Swan has been president since last spring of the Rubber Goods Manufacturing Co., of which the Belting and Packing company is a constituent part. At the same time Louis K. McClymonds has resigned from the office of vice president and general manager, which office is now vacant. William T. Baird, treasurer of the Belting and Packing Co. for several years past, has resigned that position, to date from December 1, and will be succeeded by Henry A. Himely, who succeeds Mr. McClymonds as a director in the company. Mr. Himely will also succeed to the offices of secretary and treasurer of the Mechanical Rubber Co., resigned by Mr. Baird to date from December 1. Mr. McClymonds retains the presidency of the Mechanical Rubber Co. These changes were made at meetings held on November 21.

LEATHER BELTING PRICES NOT CHANGED.

THE annual meeting of the Leather Belting Manufacturers' Association was held on November 19, at the Astor House, in New York. The officers were reelected. No change was made in the price list adopted in November, 1901, when an advance was made. The Hon. Charles A. Schieren, chairman of the executive committee, who had traveled in Europe recently, urged the importance of repealing the duty on imported hides, and on his motion a resolution passed, indorsing President Roosevelt's plan for a permanent non partisan tariff commission.

FAILURE IN THE BALTIMORE TRADE.

RECEIVERS were appointed on November 25 for Solomon Preiss and Jacob Preiss, trading as the Chesapeake Rubber Co., jobbers of mackintoshes and rubber clothing, at Baltimore, Maryland. The bond is for \$100,000. It is alleged in the moving petition that the firm owes large debts which it is unable to pay. The same partners traded also as S. Preiss & Son, which firm consented to the assignment.

CABLE RUBBER CO.'S CHANGE OF POLICY.

AFTER December 1 the Cable Rubber Co. (Boston) will discontinue the sale of all goods except those of their own make, consisting of carriage cloths, wagon aprons, horse clothing, ice aprons, rubber surface clothing, bellows cloth, etc. Their largely increased business in these lines and the recently completed addition to their factory made it imperative for the management to concentrate on the production and sale of their own goods. The New England agency for the Hodgman Rubber Co. (New York), which they have held for years, is relinquished, and that line will now be handled from New York. In a circular to their customers the Cable Rubber Co. add: "We trust that you will extend to the Hodgman Rubber Co., of New

York, the same courtesy which you have shown us in the past when in need of goods in their line, which we have represented in New England for so many years."

MR. BAIRD MAKES A CHANGE.

WILLIAM T. BAIRD has retired from a connection with the rubber industry dating back thirty years, to become president and treasurer of the Rubber Trading Co. (New York), organized in March, 1902, to carry on a business in crude rubber. An increase in the amount of capital of this company will be announced shortly. Mr. Baird is a brother of Robert B. Baird, an experienced rubber broker, to whom the organization of the Rubber Trading Co. was due. William T. Baird entered the employ of the New York Belting and Packing Co. in 1872. When, a few years ago, the late John H. Cheever was obliged to relinquish active attention to business, he was succeeded as treasurer of the company by Mr. Baird. When the Mechanical Rubber Co. was organized August Belmont was elected treasurer of the latter, with Mr. Baird as assistant treasurer. Later Mr. Belmont resigned, since which time Mr. Baird has filled the offices of secretary and treasurer of the corporation, as well as treasurer of the Belting and Packing company. At a meeting of the board of the latter company it was—

Resolved, That while accepting the voluntary resignation of Mr. W. T. Baird, the directors of the New York Belting and Packing Co., Limited, desire to express their appreciation of his unswerving loyalty and valuable services in the past thirty years during which he has been connected with the company.

The board of the Mechanical Rubber Co. adopted a similar resolution, relating to Mr. Baird's "connection with the company which dates back from its organization."

NEW INCORPORATIONS.

NEW YORK Wheel and Tire Co. (New York), October 29, under New York laws; capital, \$150,000. Incorporators: General C. E. Compton, U. S. army, retired, Washington, D. C.; Colonel F. B. Jones, U. S. army, retired, New York city; Ira Harris, U. S. navy, retired, Bogota, New Jersey. The officers are: C. E. Compton, president; Ira Harris, vice president; F. B. Jones, treasurer; Harry R. Danner (lawyer, No. 141 Broadway, New York), secretary; George S. Lee (Hawthorne, N. J.), general superintendent. The object of the company is the manufacture of automobile wheels and rubber tires under certain patents, granted and in prospect, on inventions of Mr. Lee.

=Safety Sectional Pneumatic Tire Co. (Binghamton, N.Y.), October 14, 1902, under New York laws; capital, \$500,000. Organized to acquire the assets, good will, and business of the Sectional Pneumatic Tire Co. [see THE INDIA RUBBER WORLD, April 1, 1901—page 206; July 1, 1901—page 297], including United States and foreign patents granted to Charles Miller for a pneumatic vehicle tire having an air section in short lengths, inflated from a continuous metal tube passing around the wheel. The company are endeavoring to raise capital to organize a factory to make the tire and all accessories. Officers: E. C. Inderlied, president; Charles Miller [the patentee], vice president; B. A. Baumann, secretary; O. S. Heller, treasurer.

=Pennsylvania Rubber Tire Manufacturing Co., November 7, 1902, under Delaware laws; capital, \$100,000. The incorporators reside in Philadelphia and Wilmington.

=The Dandy Rubber Heel Co. (Lynn, Mass.) November 11, under Massachusetts laws, to manufacture and sell rubber heels; capital, \$5000. Edward J. Twomey, president; William J. Murdock, treasurer. The company advise THE INDIA RUBBER WORLD that they have several patents pending covering improvements in rubber heels, and expect to have a full line on the market for the spring trade.

CONCENTRATION IN THE TIRE TRADE.

A VERY decided step has been made in the policy of concentration toward which the management of the Rubber Goods



LEWIS D. PARKER.

Manufacturing Co. has been working for some time past, by the placing under a single management the various factories owned by the company devoted to the production of rubber tires. During the last week of October, at meetings of the directors of Morgan & Wright (Chicago) and the Indianapolis Rubber Co. (Indianapolis), Mr. Lewis D. Parker, president of the Hartford Rubber Works Co., was elected to the same position in these companies, the resignations of their former presidents having been accepted. The Hartford Rubber Works Co. are the makers of the "Hartford" and "Dunlop" tires; the Indianapolis company manufacture the "G & J" tires; while Morgan & Wright make the tires so well known under that name. The three corporations will retain their identity, but will all be operated on a community-of-interest basis under President Parker's supervision. Mr. Parker has made arrangements with J. C. Wilson, formerly secretary and treasurer of the Hartford Rubber Works Co., to be general business manager under his direction, and Mr. Wilson will, therefore, again be located at Hartford. Mr. Parker, of whom a portrait is presented herewith, and who is not yet 40 years of age, has fairly won his spurs by his capable management of the Hartford factory, which has become perhaps the most successful tire manufacturing plant in this country.

James How, manager of the local branch of the Hartford Rubber Works at Buffalo, New York, was quoted in the *Enquirer*, of that city, as saying that the only way in which the consolidation would affect the local trade would be in the fact that his concern would now handle the products of all members of the combination. The Hartford people are the only ones in the combination having a branch in that city, and Mr. How was of the opinion that eventually the other firms connected would withdraw their traveling salesmen, cease to do business directly with the retailers there, and reach their trade through the already established branch of the combination.

A correspondent at Akron, Ohio, writes: "Regarding the move recently reported in the papers about a consolidation in the Rubber Goods factories, several of the smaller factory managers claim that their business will be conducted as heretofore and assert that their factories will not be closed down. There is an impression that some of the small factories, nevertheless, will be shut down; outsiders seem to think that the company could save money by so doing. There are very few combinations in these days that still keep up all the individual plants in the manner that the Rubber Goods company has done."

The approaching retirement of President Wheeler, of The India Rubber Co. is reported on another page.

AMERICAN BICYCLE CO.

THE receivers have filed a report with the United States circuit court in the New Jersey district, showing \$43,000 deposited in various banks and \$19,500 in the hands of agents. An unused factory in Wisconsin has been sold for \$37,500, cash. Economies of management introduced are expected to save \$250,000 a year. The sales department is now conducted through only two branches, with headquarters at Hartford and Chicago respectively, each in charge of a manager. The offices of the American Bicycle Manufacturing Co., a subsidiary concern, have been removed from Chicago to New York, and the services of many officials dispensed with. The old stock of wheels has been disposed of and the company are limiting the production of new wheels to the demand in sight. There has been an improvement in trade and bicycles are being exported. — There have been conferences recently of manufacturers of bicycles, both independent and members of the trust, looking to an increase in the prices of wheels. While nothing definite has been announced, it is generally believed that higher prices will prevail for the next season. Reports of better conditions in the bicycle industry in Europe lead to the hope of similar improvement in the trade in this country. — The contract existing between the American Bicycle Co. and the Rubber Goods Manufacturing Co., by which the latter company agreed to pay \$200,000 in November of the years 1902, 1903, and 1904, as part payment on the purchase price of certain properties previously transferred to the Rubber Goods Manufacturing Co., and also on condition of fulfillment of certain other stipulations by the American Bicycle Co., is referred to in the receivers' report above mentioned. The Rubber Goods Manufacturing Co. sent a letter to the receivers abrogating the contract, on the ground of the bicycle company's insolvency. In the receivers' report it is stated that so far as legal counsel has advised them the conditions on the part of the bicycle company have been fulfilled and that the contract is still valid.

INDIANA RUBBER AND INSULATED WIRE CO.

AN additional building of several stories is being added to the premises at Jonesboro, Indiana, in which will be placed facilities for increasing their output of insulated wire. A good business has been done in a medium grade bicycle tire.

TRADE NEWS NOTES.

AN error was made in the November issue of THE INDIA RUBBER WORLD, in giving the name of the president of the Diamond Rubber Co. (Akron, Ohio), who is Mr. F. A. Hardy, a prominent business man of Chicago. He will continue to make his home in Chicago, visiting Akron frequently. The former president, Mr. Walter B. Hardy, brother of the present incumbent, takes the title of managing director of the North Western Rubber Co., Limited, Liverpool, and will hereafter reside abroad. He left for England on November 8.

— The new plant of the Eureka Manufacturing Co., (Trenton, New Jersey), is located just opposite the great works of the Trenton Oil Cloth and Linoleum Co., most of the stock of which is owned by the Cook brothers, one of whom, Mr. George R. Cook, is at the head of the Eureka company.

— The Faultless Rubber Co. (Akron, Ohio) are erecting a four story brick building, 35 × 110 feet, and within a week or two will break ground for still another building, 32 54 feet and four stories in height.

— W. C. Coleman, a Boston dealer in old rubber, reports a transaction in old rubber boots and shoes during November amounting to 100 tons.

— The American Chicle Co. have declared a monthly dividend of 1 per cent. on its common stock payable December 10.

=The Hartford Rubber Works Co. have engaged in the manufacture of rubber toy balls.

=The Excelsior Machine Co. (Akron, Ohio) are making patterns for a full line of rubber tubing machines, which they will put on the market early this winter.

=John Wanamaker placed on sale at his New York and Philadelphia stores early in the month a stock of rubber boots and shoes, asserted not to be "seconds," and offered at about half price. Ten thousand pairs were put on sale at the Philadelphia store.

=A suit has been filed by The I. B. Kleinert Rubber Co., of New York city, and Reddin W. Parramore, of Somerville, New Jersey, against Thomas P. Taylor, of Bridgeport, Connecticut, for an alleged infringement of patent No. 668,541, for a hose supporter, granted to Parramore, February 19, 1901. The complaint was filed in the United States circuit court at Hartford on November 8, the defendant being notified to enter an appearance on or before December 1.

=The W. S. Nott Co. (Minneapolis, Minnesota), who are leather belting manufacturers as well as large jobbers of rubber goods, have completed for the Twin City Rapid Transit Co.'s new power house the second largest leather belt in the world. It is 100 feet long, weighs 2000 pounds, is 80 inches in width, and 3 ply. No fasteners were used in its construction outside of a special belt cement. The largest rubber belt ever made was supplied by the Messrs. Nott for the Anaconda copper mine, in Montana.

=Fred. Partridge, formerly of Bowdoinham, Maine, and lately with the Maynard Shoe Co. (Claremont, N. H.) has become superintendent of the rubber department of the Rubber Soled Leather Shoe Co., at South Framingham, Massachusetts.

=S. T. Rigdon, manager of the tire department of the Good-year Tire and Rubber Co. (Akron, Ohio), has resigned and accepted a position with the International Automobile and Vehicle Tire Co. (New York), instead of another company, as wrongly reported in these columns last month.

=The LaCrosse Rubber Mills Co. (La Crosse, Wisconsin) are so busy that they have been obliged to add another stitching room to their plant, in which they have installed 100 additional sewing machines.

=The Fisk Rubber Co. (Chicopee Falls, Mass.) have arranged for the exclusive representation of the Firestone Tire and Rubber Co. (Akron, Ohio), in the cities of Syracuse and Buffalo, N. Y., Detroit, Mich., and Springfield, Mass., where they maintain depôts for the sale of their own makes of tires. The Firestone tire is of the side-wire solid type.

=Several premature publications have been made in the newspapers regarding the projected Milwaukee Rubber Works (Milwaukee, Wisconsin), but an authorized statement from the management may now be expected at almost any time.

=George W. Knowlton Rubber Co. (Boston) announce that, on account of the necessity for larger quarters, occasioned by the growth of business, their sales department has been removed to No. 33 Broad street, near State, on the street floor.

=The B. F. Sturtevant Co. (Boston), it is reported, will erect an extensive plant, in Bedford England, for the manufacture of their exhaust fans and other specialties.

=The Piedmont Rubber Co. (Atlanta, Georgia), selling agents and jobbers of rubber and leather belting, mackintoshes, and rubber footwear, have discontinued business.

=In the New York supreme court Frank H. Hobbblethwait has sued Charles R. Flint and Wallace B. Flint, trading as Flint & Co., to recover \$30,000 for alleged violation of contract, with relation to paving the streets of Manáos (Brazil) with asphalt, and also to recover certain shares in the Manáos Railway

Co., alleged to have been given as collateral for promissory notes. The defendants say that Hobbblethwait did enter into a contract with them, but that he became ill and they had to employ other persons in his name, and that by his neglect they lost valuable contracts, and to protect their interests they sold the railway stock to the city of Manáos, which still left due to them from the plaintiff \$8561, for which they ask judgment.

=Mr. Henry C. Pearson, publisher of THE INDIA RUBBER WORLD, has been elected to membership in the American Society for Testing Materials, affiliated with the International Association for Testing Materials, and has also been invited by Professor L. von Tetmajer, of Vienna, president of the International association, to take part in a commission for the solution of Problem 35, proposed at the Budapest congress of 1901: "Study of the methods of testing Caoutchouc." The chairman of the commission is Mr. E. Camerman, of Brussels.

=Mr. F. C. Hood, treasurer of the Hood Rubber Co. (Boston), was recently operated upon for appendicitis, and his many friends will be glad to hear that he is making an excellent recovery.

=Mr. Joseph Torrey, chemist at the works of the Diamond Rubber Co. (Akron, Ohio), sailed for England on November 29, by the *Etruria* for a short vacation.

=One of the most pleasant society events in Akron during the year was the marriage of Miss Gertrude M. Mason, daughter of Mr. F. H. Mason, general manager of the works of The B. F. Goodrich Co., to Mr. Harry K. Raymond, a department manager for the company, in the First Congregational church of Akron, on the evening of November 6. The maid of honor was Miss Elizabeth Mason, sister of the bride. Among the ushers was Mr. Theron R. Palmer, formerly with the Goodrich company and now superintendent of the Pennsylvania Rubber Co. After a visit to the Eastern states and to Havana, Mr. and Mrs. Raymond will reside in Akron in a home presented by the bride's parents.

=The cornerstone of the new Akron city hospital, built chiefly by the contributions of Colonel George T. Perkins, president of The B. F. Goodrich Co.; President O. C. Barber, of the Diamond Match Co. and largely interested in the Diamond Rubber Co.; and Mr. H. B. Camp, of the Camp and Faultless rubber companies, was laid with Masonic ceremonies on November 23.

=Plans have been drafted for the reorganization of the American Bicycle Co., which is now in the hands of receivers.

RUBBER GOODS MANUFACTURING CO.

GOSSIP has been busy during the month with the affairs of this company. There have been reports that a single board of directors would be placed in charge of the affairs of all the subsidiary concerns, but thus far their only basis has been the election of Mr. Parker, of the Hartford factory, as president of two other companies, thus concentrating the management of the plants devoted chiefly to tires. Some change has been made in the organization of the New York Belting and Packing Co., Limited, and the retirement is announced of President Wheeler, of the India Rubber Co., (Akron, Ohio)—further details in regard to both of which affairs are given elsewhere in this paper. Mention was made last month of projected legal proceedings to compel the taking up of certain securities now held as assets by the Rubber Goods company, by the interests responsible for the company coming in possession of them. It now appears that the matter will be adjusted without the help of the courts, after which there may be further steps in the direction of reorganization, under the direction of the Taylor interests now in control of the company.

THE RUBBER TRADE AT AKRON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The latest development in the litigation over the Grant tire patent has proved satisfactory to the interests attacking the validity of that patent. The United States supreme court on October 27 denied the application of the Rubber Tire Wheel Co. for a writ of *certiorari* to the United States circuit court of appeals for the sixth circuit, in the case of that company against the Goodyear Tire and Rubber Co. In May last the appellate court, sitting at Cincinnati, rendered a decision declaring the Grant tire patent invalid, and the refusal of the supreme court to review this decision has the effect of sustaining it. "We consider the case now settled beyond reopening," said Secretary Seiberling, of the Goodyear Tire and Rubber Co., to THE INDIA RUBBER WORLD correspondent. The litigation over this patent has cost the plaintiffs and defendants, it is estimated, about \$135,000.

* * *

THE Colonial Tire and Rubber Co., composed of Akron men, and who control the European rights outside of Great Britain for the Swinehart side wire solid vehicle tire, have made a contract with Messrs. Torrillon et Cie., the rubber manufacturers of Clermont-Ferrand, France, giving the latter the exclusive right in France, Spain, Portugal, and Italy, for the manufacture and sale on royalty of this tire. Messrs. Torrillon will spend 250,000 francs for additions to their plant in preparation for the manufacture of the tire, and machinery for this purpose has been ordered from Akron. Mr. J. A. Swinehart, the inventor of the tire, and connected with the Colonial company, will remain in France for awhile to inaugurate the new manufacture at the Torrillon plant. The Colonial company are about to arrange with a Vienna concern for the sale of their Austrian rights, and are also seeking to introduce the tire into Germany. Mr. P. D. Hall, of the Colonial company, who has just returned from Europe, is much impressed with the extent and substantial condition of the rubber industry in France. The "American invasion," however, is very generally resented in that country, Mr. Hall says, and he believes that the bill now before the French chamber of deputies, increasing the duty on imports on manufactures of rubber from 8 to 12 cents a pound, will become a law. Mr. Hall considers the French manufacturers somewhat ahead of the Americans in the manufacture of automobile tires, but far behind in the matter of other vehicle tires and the general run of rubber goods. Mr. Hall studied in France and Germany, becoming familiar with the languages of both countries, which is of great assistance to him now in promoting the company's interests abroad.

The Firestone Tire and Rubber Co. have been extending their plant preparatory to the manufacture of their own tires—the Swinehart cross wire patent—instead of having them made under contract, as heretofore. Three buildings have been erected, the main structure being of tile, 150 × 75 feet, one story high. Machinery has been purchased, and it is intended to have the factory in operation about December 15. The capital stock of the Firestone company was increased from \$150,000 to \$200,000 at the annual meeting on August 21. On November 21 the company purchased some real estate adjacent to their factory, including a building that will be converted to office uses. The B. F. Goodrich Co. will continue to manufacture these tires under license.

* * *

THE factory of the People's Hard Rubber Co. was closed on November 17 for the taking of inventory, and newspaper reports had it that the property is to be purchased by the Amer-

ican Hard Rubber Co. While the property may eventually go to the latter concern, no sale has yet taken place, and the only authorized announcement is that changes are pending which may mean a sale, but not necessarily to the American Hard Rubber Co. The People's company have been doing a good business, though organized only a little more than a year ago. E. R. Held resigned recently as treasurer and I. C. Bruner has been acting treasurer.

[Another correspondent writes: "As a prominent official of the American Hard Rubber Co. from the East has been in town this past week, and as the People's Hard Rubber factory has been shut down for inventory, many people here are certain that the control of the company has been to the American.]

* * *

THE removal of the general offices of the Whitman & Barnes Manufacturing Co. to Chicago takes to that city permanently George A. Barnes, C. E. Caskey (the assistant treasurer), and a considerable force of office workers. President Sheldon spends much of his time in Chicago, but owing to the law requiring that a majority of directors of Ohio corporations shall be residents of this state, he retains his residence in Akron. Mr. J. A. Vining is now in general charge of the Akron factory and offices. Other changes affecting this company are pending, but they do not concern the company's rubber departments, except that these may be still further enlarged.

"The famous Goodyear rubber interests" which, according to some newspapers in Buffalo, New York, have been looking about there with a view to establishing a mammoth plant, and leading to the hope that "Buffalo may get the entire rubber industry," are not the Goodyear Tire and Rubber Co., of Akron. The latter are just completing their third large addition since the plant was first established, about four years ago, and they have no thought of building elsewhere.

Barberton is to have another rubber factory. It is expected that early in December a West Virginia charter will be obtained for a company with \$50,000 capital, to make molded and dipped rubber goods at the outset, with the addition of tires and other mechanical goods later. Charles Ammerman, of Barberton, in behalf of the prospective company, on October 22 purchased for \$3500 four acres of land for a factory site on the outskirts of Barberton.

Akron rubber manufacturers have been pleased to hear that the affairs of the American Bicycle Co. are likely to be straightened out in a manner that will put that concern on its feet again. The demand for some time past has been for cheap bicycle tires, and general interest in this department of the rubber industry has been lacking. Some of the more sanguine tire makers, however, are looking for an improvement in the trade.

At the annual meeting of The India Rubber Co., in January, Mr. Charles H. Wheeler will retire from the presidency. Mr. Wheeler has many other business interests, but is expected to devote his attention chiefly to the Cleveland, Akron, and Southern Fast Line Railway Co., which is about to build a new trolley line from Cleveland to Akron—35 miles—and, by having a straight road, compete strongly with the steam railways.

The Pure Gum Specialty Co., at Barberton, are at work on the third addition to their premises for this year—a two story brick structure, 80 × 40 feet. Treasurer W. A. Johnston states that the company are both extending their present business and taking on new lines, rubber balls being the latest. The company were obliged recently to pay a high price to secure two lots adjoining their location.

The demand for rubber machinery was never greater than at present, according to Alexander Adamson, whose shops are

very busy with this class of work, on orders from both American and foreign manufacturers. Mr. Adamson, by the way, is building a handsome home on Sherbondy Hill, to be known as "Highland Springs."

The Whitman & Barnes Manufacturing Co. observed their usual custom of presenting Thanksgiving turkeys to all their employes, notwithstanding the high cost of these birds this year.

The Alden Rubber Co. are very busy at their factory at Barberton, especially in making their interlocking rubber tiling. They recently made a single shipment of a carload of baby carriage tires.

Akron tire manufacturers were well represented at the annual convention of the Tri-State Vehicle, Harness, and Implement Dealers' Association in Cincinnati, November 17-22. There were some extensive exhibits of tires, which attracted more attention than any other feature.

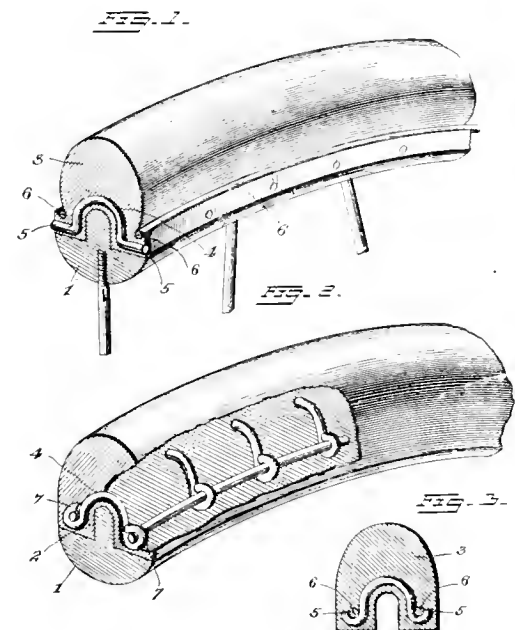
Orders for golf balls have continued to be received in large numbers, notwithstanding the practical close of the season in the northern states. Thus far manufacturers have had no opportunity to put goods into stock for next season's demand. The Haskell ball continues a great seller.

The Goodyear Tire and Rubber Co. have equipped with Wheeler solid endless tires five machines of the San Francisco fire department, including a water tower weighing 19,000 pounds.

The five story addition to the premises of The B. F. Goodrich Co., now practically completed, is one of the handsomest structures in Akron's rubber factory group.

THE Combination Rubber Tire and Supply Co. have met with delays in getting steel for rims, but expect to be in operation during December. They report many inquiries for their newly patented "Combination" tire and the larger amount of their capital stock has been sold. It is likely that the Diamond

Rubber Co. will make their rubber tires. At the shop fitted up here by the Combination company the rubber and steel parts will be assembled. The tire is the invention of William R. Harris, an Akron blacksmith, who caught the idea while setting rubber tires and finding dirt and foreign matter in the channels between the tires that had long been in use. This tire does away with the ordinary steel channel, a series of transverse wires bent over a specially shaped rib along the steel rim taking its place. These transverse wires are designed to hold the longitudinal bands in place and to prevent their spreading and cutting the



rubber. The absence of the channel, it is claimed, and the compact manner in which the rubber fits the steel, will prevent the admission of dirt and water beneath the rubber. In the illustration Fig. 1 shows a section of a bicycle wheel rim with the new tire. Fig. 2 is a similar view, partly in section, showing another form of construction which may be adopted in combining the reinforcing elements of the invention. Fig. 3 is an end view showing still another form of construction for the reinforcing devices. This tire is designed for use also on vehicles.

THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Grieb Rubber Co. have devoted their attention for the past two years to the manufacture of rubber specialties, and for the shoe trade in particular, with such success that additional facilities have become necessary, and a plant for the manufacture of all kinds of rubber cement has been added. Besides, an additional wing to the factory 36 X 50 feet is building. C. H. Oakley, for eight years superintendent of one of the plants of the Mechanical Rubber Co., is the manager of the factory, and associated with him, as sales manager, is George E. Sislin, formerly a New York city salesman for the Mechanical Rubber Co.

The Crescent Belting and Packing Co. are understood to have booked many orders ahead and the outlook for next season's hose business is bright.

The Crescent Insulated Wire and Cable Co. continue to be crowded with all the business they can handle. Day and night shifts are kept constantly at work.

The Joseph Stokes Rubber Co. are erecting a one-story building, 40 X 100 feet, to be used as a polishing and buffing room. The company have put in two large new lathes and five smaller ones.

The Hamilton Rubber Manufacturing Co. are rushed with orders, working 25 men in their mixing department four nights a week.

The Empire Rubber Manufacturing Co. have completed a brick building for use in boiling the oil used in the manufacture of their carriage cloth. The company will soon begin the manufacture of enamelled oil cloths in the new buildings mentioned in THE INDIA RUBBER WORLD last month. Formerly the goods of this class marketed by the Empire company were manufactured by the Trenton Linoleum and Oil Cloth Co.

Mr. John S. Broughton, secretary of the United and Globe Rubber Manufacturing Cos. is chairman of a committee of the Fellowcraft Club—an organization of members of the local lodge of Masons—which has arranged to give a series of smokers this winter, the first of which was held on the evening of November 7. Mr. Broughton is also a vestryman of Trinity Episcopal church, and assisted at a reception given to the men of the church by the rector and vestry on the evening of November 24.

In the United States district court at Trenton on November 12, Judge Kirkpatrick handed down an opinion giving judgment to the United States in the sum of \$2190 against Charles Brabender, of New York city. The defendant purchased in Barmen, Germany, a lot of manufactured India-rubber and five packages of machinery which arrived at Hoboken, September 7, 1900. Mr. Brabender did not call for them and the goods were sold to satisfy the duty charges of \$4000. As the goods did not bring that amount Brabender was sued for the difference.

DEATH OF A RUSSIAN RUBBER MAN.

IT is with regret that many readers of THE INDIA RUBBER WORLD will learn of the death of Mr. Boris Kempe, of the Russian American India Rubber Co., of St. Petersburg. He had suffered for about two years, being all the time under the care of the best medical authorities. He went to Berlin, where



BORIS KEMPE.

celebrated doctors decided to perform an operation as the only means of saving his life. The operation itself proved a success, but the patient had not enough strength to pull through, and he died on the ninth day thereafter, on October 27. The body arrived in St. Petersburg on November 7, and the funeral took place on the 8th. Mr. Kempe was a Russian by birth but from German descent. He was a graduate from one of the large German universities and was a chemist of note. For many years he was interested in the manufacture of glass and made many important discoveries in that industry. He had long been connected with the Russian-American India-Rubber Co., was one of their directors and the head of their technical bureau, and was one of the factors in the wonderful growth and progress of that company. Mr. Kempe's knowledge of all matters connected with the rubber trade was remarkable, and the company met with a "great loss," to use their own words, when death took him from them. In addition to his rubber business Mr. Kempe was a director in several of the large and growing industries of Russia. He was a man of education, of great business capabilities, a good mechanic, and a thorough rubber man; he was a good friend and one of those rare men whom to know was to love. He had traveled a great deal, had made two visits to the United States, and was a great admirer of our country, its institutions, and its people.

A. M. STICKNEY.

THE HASKELL GOLF BALL SUITS.

THE golf ball interest of to-day centers about the rubber cored ball and the suits that have been instituted by its inventors, the Haskell Golf Ball Co., and manufacturers. The B. F. Goodrich Co. As a preliminary it is only fair to say that the Haskell company succeeded in producing a ball that was far superior to any in the field, and that after spending thousands of dollars in experiments, and in spite of the fact that golf ball makers and users were profoundly and openly skeptical. When the Haskell ball had become a success, others began to make rubber cored balls, and as a result suits were instituted by the Haskell company. The furthest advanced of these is the American suit against the Kempshall Manufacturing Co., which to-day looks favorable to the Haskell invention. There is also a suit against Kempshall in England in which the Haskell company have retained Messrs. Wilson, Bristows & Carpmael as solicitors and Mr. Fletcher Moulton, K.C., as senior counsel—a man who, by the way, is reputed to be the ablest patent attorney in the United Kingdom.

The Haskell Golf Ball Co. have brought suit also against A. G. Spalding & Brothers in the United States circuit court in the southern district of New York, retaining as counsel Mr. Charles Neave of Richardson, Herrick & Neave, and still another suit has been brought against Patrick Brothers, of New York, manufacturers of the Acme A1 ball.

It has been claimed that, as baseballs were made in which some rubber thread was used, the rubber cored golf ball was no novelty. The concensus of expert legal opinion, however, appears to be that as the rubber cored golf ball is Gutta-percha covered, and as it develops two features absolutely new in golf balls—the use of thread in the baseball bears no relation to the new discovery. That discovery in brief was the fact that the wound rubber cored ball when driven developed the rubber resiliency and carried further than the solid Gutta-percha ball, and on the putting green developed the Gutta-percha resiliency which properly responded to the put. It is on these points that the Haskell company are making a strong fight and declare themselves willing to meet all comers.

THE AMERICAN PACIFIC CABLE.

DURING the month the president of the Commercial Pacific Cable Co., Mr. Clarence H. Mackay, and the other principal officials of the company, visited Washington and formally notified the government of their acceptance of the conditions named by President Roosevelt, in August last, as necessary to the consent of the government to the landing of their cable on American soil. Mr. Mackay explained that the long delay in expressing such approval had been caused by protracted negotiations to secure a landing place in China to comply with the condition named by President Roosevelt, that an independent American line should be constructed from Manila to China, thus giving an all-American through line to the Asiatic continent. The company announce their ability and intention to lay a cable from Manila to Shanghai (instead of Hong Kong), a distance of about 1200 miles, and to have the same completed within a year. The legal officers of the cable company having signed a contract embodying the conditions referred to, President Roosevelt gave the same his final approval, on November 26. The contract is subject to revocation in case the Congress should find objectionable arrangements in it, but such action is not expected. Indeed, the navy department has already furnished to the cable company the soundings and profiles of the Pacific cable route made by government expeditions, in return for certain concessions in rates promised to the government.—It is expected that Christmas greetings will be exchanged by cable between San Francisco and Honolulu. The English cable steamer *Silvertown* is due at San Francisco on December 5, and it is not expected that more than twelve days will be required to lay the cable to Honolulu.

BRITISH PACIFIC CABLE COMPLETED.

THE last section of this cable was laid on October 30, connecting the Fiji islands with Norfolk island, to which the cable had already been connected from New Zealand and Queensland. The first message sent over the completed line across the Pacific was one of congratulation to King Edward, which reached Buckingham Palace on October 31.

THE returns for the rubber industry in Massachusetts in the United States census for 1900 compared with those of the state bureau of statistics of labor for 1895, show an increase of 20.56 per cent. in the total value of goods produced. The value of rubber boots and shoes alone increased from \$14,229,024 in 1895 to \$16,490,015 in 1900.

NEW TRADE PUBLICATIONS.

ROBINS CONVEYING BELT CO. (New York) issue a new and enlarged edition of Belting Conveying Machinery, which is more of the nature of a mechanical treatise than a catalogue of machinery for sale, though it serves admirably the latter purpose. When, a few years ago, Mr. Thomas Robins, Jr., read a paper before one of our engineering societies on the principles of the conveying belt system [see *THE INDIA RUBBER WORLD*, May 10, 1896], it was quoted all around the world, since which time the practical demonstration of this system has been equally widespread. In addition to illustrations of the various details of construction of the Robins system, this book contains four score views of mining, mill, and other plants of widely varying character in which these belt conveyors are in practical use. [6" X 9." 72 pages.]

THE COMBINATION RUBBER AND BELTING CO. (Bloomfield, New Jersey) issue a catalogue of Vulcanized Rubber Goods Adapted to Mechanical Purposes, among which they give prominence to conveyor belts with reinforced covers; "Indestructene" rubber belting, frictioned by a special process; "Indestructene" air brake and signal and fire hose; and sheet and other packings. The catalogue includes all the other staple lines of mechanical goods, and mentions many specialties, some of which do not appear in most of the rubber manufacturers' catalogues. [5" X 7½". 84 pages.]

NEW JERSEY CAR SPRING AND RUBBER CO. (Jersey City, N. J.) issue an illustrated catalogue and price list devoted exclusively to Rubber Mats and Matting. It presents a large number of designs of perforated mats, each one of which is stated to have been engraved from a line of mats in actual use. A very wide variety of such goods is illustrated, including some involving different colors of rubber, and presenting an ornamental appearance. There is also a wide variety of corrugated, tile, and other matting illustrated, rubber stair nosings, coin mats, etc. [4½" X 6½". 48 pages.]

THE DIAMOND RUBBER CO. (Akron, Ohio) are sending out a large picture in colors, labeled "The Fire Department in the Year 1952," illustrating the kind of apparatus that may be needed for handling their hose at fires when there shall be no longer any city buildings but skyscrapers too tall to see to the top of. The Diamond company are confining their energies to the sale of hose in the present, however, for who knows but, before their artist's prophesies can be realized, the invention of fireproof materials may have rendered fire fighting a lost art?

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, New Jersey) issue a catalogue of Rubber and Rubber Lined Cotton Garden Hose for the season of 1903, illustrated with sections of their leading brands with their trade marks in *fac simile*. [5" X 6". 12 pages.]

BOSTON RUBBER SHOE CO. (Boston, Massachusetts), in recognition of their semi-centennial, have prepared a handsome Fiftieth Anniversary Calendar, for 1903. The company began the manufacture of rubber shoes in 1853, making 250 pairs per day. For ten years past they have made 55,000 pairs, daily, having become the largest establishment of the kind in the world. The calendar is attractive from an artistic standpoint, and will be sent free to dealers in rubber shoes, and to other persons on receipt of 6 cents in postage stamps.

CLIFF & GUIBERT CO. (No. 198 West Broadway, New York), issue a catalogue of Interior Fire Hose Equipment, with special reference to the Cliff Safety Automatic Reel. Illustrations are given of several large buildings equipped with this reel, and testimonials of a high class respecting its merits. [6¼" X 9½". 15 pages.]

WESTERN RUBBER CO. (Goshen, Indiana) have issued a small booklet to take the place temporarily of their first catalogue of India-Rubber Goods, soon to appear. It illustrates their "Western" rubber horseshoe pad and "Western" rubber heel, and calls attention to their Middleton "Tough" and other brands of packing, together with stopples, tubing, mats, and molded specialties. [3½" X 5 7/8". 20 pages.]

W. D. ALLEN MANUFACTURING CO. (Chicago, Illinois) issue a catalogue, No. 18, devoted to Leather Belting, Brass Goods, Piston Packing, and Specialties in Mill Supplies, with the announcement that "this catalogue advertises only such goods as we manufacture," which would indicate a wide range of products of this company. It is the first catalogue to reach us dated 1903. [6¼" X 10". 64 pages.]

GOSHEN RUBBER WORKS (Goshen, Indiana) issue a catalogue of Steam Packings, of which they are making a specialty. They reprint testimonials from users of their various packings, commending them for steam, water, and gas. [5¼" X 5¾". 16 pages.]

THE LAWN SPRINKLER SEASON.

THERE may have been a time when a lawn sprinkler was simply a lawn sprinkler, and when no further detail was needed in ordering one of these devices, no matter what its intended



COLUMBIA.

use might be. That time has long past, however, and to-day there are sprinklers varying in size or style or finish for different sizes of grounds, for different water pressures, for different tastes as to appearance, and for different prices. A particularly full line of lawn sprinklers is that made by the W. D. Allen Manufacturing Co. (Chicago, Illinois), in which apparently is embraced something for every imaginable demand for goods of this class. Descriptions of these goods have appeared in the pages of *THE INDIA RUBBER WORLD*, hitherto, so that it will suffice merely to call attention to them again, their line being too extensive to permit of the illustration in this space of more than a few of the different types. The first to be mentioned is the *Columbia* sprinkler, the base of which is of heavy cast iron, and it is so constructed that the legs can be unscrewed and the sprinkler set up or taken down with little effort. While this sprinkler has been on the market for several years, new improvements have been made from time to time, so that all the newer ideas covering revolving sprinklers are now embodied in its construction. One of the most effective sprinklers manufactured is the *Preston*, which is practically the *Columbia* on a sled. It gives a fine spray, covers a large circle, distributing the water evenly, and presents a very attractive appearance on the lawn. The *Blake* revolving lawn sprinkler gives all the execution that could be demanded of a large and expensive lawn sprinkler, and is so arranged that the spoon revolves, no matter at what angle the hose or sprinkler may be held. When used in connection with a hose holder, or attached to the end of garden hose and set in any position, the spoon revolves rapidly and freely and will throw a spray fully as far as many sprinklers of greater cost. The "Busy" sprinkler is another adaptation of the *Blake*. The prime object of a lawn sprinkler is to distribute water, and there is no question but that the various forms here do it thoroughly and well.



PRESTON.



BLAKE.



"BUSY."

REVIEW OF THE CRUDE RUBBER MARKET.

THE advance in rubber prices continues in every important market, and extends to all grades in general demand. Prices at New York, for thirteen months past, for new rubber of Upriver Pará grades, compare.

	Fine.	Coarse.		Fine.	Coarse.
1901.			1902.		
November....	84@87	63½@66	May.....	71 @74½	56@60
December....	85@87	65 @66	June....	70 @72	55@56½
1902.			July.....	70 @72	55@56½
January.....	77@86	62 @65	August....	70 @75	56@61
February....	72@79	60 @63	September..	74½@78	59@62
March.....	72@76	58 @61	October....	74½@79	60@64
April.....	73 @74½	59 @60	November..	79 @86	61@68

This period covers the depression of the market due to the liquidation of a New York importing house early in the year. Compared with the lowest prices within that period, our quotations for November 29 show the following advances:

Upriver fine, new.....	15.5 per cent.
Upriver coarse, new.....	19 2 " "

Yet rubber is not high, compared with the range of the market for several years past. Quotations printed in THE INDIA RUBBER WORLD of December 1 of each year, for Upriver Pará grades, have been:

	Fine, New.	Coarse, New.
This year.....	79 @ 80	65 @ 66
In 1901.....	84 @ 85	64 @ 65
In 1900.....	92 @ 93	69 @ 70
In 1899.....	110 @ 111	90 @ 91
In 1898.....	94 @ 95	84 @ 85

American consumption has been active all year, and promises to continue so. Never before have so many new rubber mills been in course of erection, or so many extensions of old factories in progress. Manufacturers of rubber machinery have been phenomenally busy. The prosperous condition of the country has had the effect of increasing the demand for every class of products of the rubber industry. It is during such times that articles previously regarded by many people as luxuries become necessities in popular acceptance, and a general advance in the standard of living marks a higher stage in the demand for manufactured products, which becomes permanent. Consumption is well maintained in Europe, as well. The report of a German rubber manufacturing company on another page of this paper indicates that, while business at home has been depressed, there has been a good export trade. On still another page are some figures showing the large extent of the demand for rubber goods in countries not yet making any—a field now appealing more strongly than formerly to American manufacturers.

Coincident with these conditions is a reduced supply of rubber. Receipts at Pará for the crop year, compared with former years, and including Caucho, have been:

July 1 to November 27, 1902.....	8,830 tons.
July 1 to November 30, 1901.....	10,100 "
July 1 to November 30, 1900.....	7,980 "
July 1 to November 30, 1899.....	8,460 "

There are no reports of new rubber districts contributing to the Pará market being worked this year, while it is known that the "revolution" in the Acre district has practically put an end to rubber gathering there. Antwerp reports a falling off of 600 tons of rubber from the Congo so far this year, compared with the same months of 1901, and some other districts in Africa have been yielding less rubber year by year. Attention is called to a summary of official statistics of rubber in commerce, on the last page of this paper, from which it appears that the net imports of rubber in those countries for the first

nine months of this year amounted to about 70,000,000 pounds, as against 73,000,000 in the same months of 1901 and 74,000,000 in 1900. From all of which it appears unlikely that rubber prices will be lower this season—though of course the total Amazon output may, in the end, be again surprisingly large.

Early in November the New York market was very firm. The easier condition which prevailed later was due in part to the approach of the annual stock taking season, at the factories. There was pressure to buy Centrals all month, and Africans were likewise in good demand. There was a scarcity of Upriver Pará, and especially of coarse, which is relatively higher than last year.

New York quotations on November 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	73 @74	Tongues.....	46 @47
Islands, fine, old....	@	Sierra Leone, 1st quality	65 @66
Upriver, fine, new....	79 @80	Bengnella.	54 @55
Upriver, fine, old....	84 @85	Cameroon ball.....	47 @48
Islands, coarse, new....	49 @50	Flake and lumps.....	34 @35
Islands, coarse, old....	@	Accra flake.....	18 @19
Upriver, coarse, new....	65 @66	Accra buttons.....	50 @51
Upriver, coarse, old....	@	Accra s.rips.....	52 @53
Canchol (Peruvian) sheet	55 @56	Lopori ball, prime....	67 @68
Caucho (Peruvian) ball	63 @64	Lopori strip, do....	61 @62
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	57 @58	Madagascar, black....	@
Guayaquil, strip.....	53 @54	EAST INDIAN.	
Nicaragua, scrap....	57 @58	Assam.....	56 @57
Mangabeira, sheet....	46 @47	Borneo.....	35 @48

Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.	4\$500	Upriver, fine....	5\$750
Islands, coarse.....	2\$400	Upriver, coarse.....	4\$250
Exchange, 12d.			

Last Manáos advices:

Upriver, fine....	5\$500	Upriver, coarse.....	3\$800
Exchange, 12½d.			

NEW YORK RUBBER PRICES FOR OCTOBER (NEW RUBBER).

	1902.	1901.	1900.
Upriver, fine.....	74½@79	84 @90	93 @1.00
Upriver, coarse.....	60 @64	63½@66	69 @74
Islands, fine....	72 @74	78 @85	92 @1.00
Islands, coarse.....	46 @49	46½@48	52 @57
Cametá, coarse.....	47 @49	48 @49	56 @58

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total	
	Fine and Medium.	Coarse.	1902.	1901.	1900.	
Stocks, September 30..... <i>tons</i>	192	6 =	198	523	566	
Arrivals, October.....	503	390 =	893	500	609	
Aggregating.....	605	396 =	1001	1023	1175	
Deliveries, October.....	548	369 =	917	537	725	
Stocks, October 31....	147	27 =	174	486	450	
	PARÁ.		ENGLAND.			
	1902.	1901.	1900.	1902	1901.	1900.
Stocks, Sept. 30..... <i>tons</i>	86	190	255	1275	980	1200
Arrivals, October.....	2300	1850	1235	800	645	310
Aggregating.....	2386	2040	1490	2075	1625	1510
Deliveries, October...	2241	1790	1032	825	600	650
Stocks, Oct. 31....	145	250	458	1250	1025	860
				1902.	1901.	1900.
World's supply, October 31..... <i>tons</i>				3038	2797	2664
Pará receipts, July 1 to October 31.....				6189	4112	
Pará receipts of Caucho, same dates.....				441	283	3188
Afloat from Pará to United States, Oct. 31..				554	408	270
Afloat from Pará to Europe, October 31.....				915	628	240

In regard to the financial situation, Albert B. Beers (broker in India rubber, No. 58 William street, New York), advises us:

"During November there has been no demand for paper by city banks, and out-of-town ones have been but small buyers at 6 per cent. for the best rubber names, and $6\frac{1}{2}$ @ 7 per cent. for those not so well known."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic.....	7 ⁵ / ₈ @ 7 ³ / ₄
Do —Foreign.....	6 ¹ / ₂ @ 6 ⁵ / ₈
Pneumatic Bicycle Tires.....	5 ³ / ₄
Solid Rubber Wagon and Carriage Tires.....	6 ¹ / ₂
White Trimmed Rubber.....	9 ⁵ / ₈ @ 9 ⁷ / ₈
Heavy Black Rubber.....	4 ¹ / ₄
Air Brake Hose.....	2 ³ / ₄ @ 2 ⁷ / ₈
Fire and Large Hose.....	2 ¹ / ₂
Garden Hose.....	1 ¹ / ₂
Matting.....	1

Rubber Receipts at Manaos.

DURING October and for the first four months of the crop season, and compared with former years [by courtesy of Messrs. Witt & Co., Manaos]:

FROM—	OCTOBER.		JULY-OCTOBER.			
	1902.	1901.	1900.	1902.	1901.	1900.
Rio Purús..... tons	431	494	442	1199	1374	1137
Rio Madeira.....	160	470	171	894	1064	870
Rio Juruá.....	38	277	157	269	581	340
Rio Javary—Iquitos.....	153	320	159	308	475	193
Rio Solimões.....	282	247	147	445	504	252
Rio Negro.....	4	1	5	69	17	6
Total.....	1068	1809	1081	3184	4015	2804
Cancho.....	62	123	32	321	514	324
Total.....	1130	1932	1113	3505	4529	3128

Rubber From Bolivia.

EXPORTS during January to June, inclusive, *via* San Antonio, on the Madeira, being the product of the rivers Béni and Madre de Dios, in Bolivia:

CLASSES.	1901.	1902.
Fine..... kilos	368,763	415,079
Coarse.....	49,360	63,945
Cancho.....	16,618	3,619
Total.....	434,741	482,643

Exports by months during 1902:

January.....	88,378	March.....	57,598	May.....	68,165
February.....	73,550	April.....	100,120	June.....	94,796

Mollendo Rubber Exports—1901.

To United Kingdom (London).....	pounds	28,734
Do (Liverpool).....		453,533
" Germany (Hamburg).....		133,556
" France (Havre).....		6,863
" United States (San Francisco).....		28,290

Total..... 650,976

Balata.

AT London rubber auctions on November 14, of 121 bags Sheet offered, 26 sold—Surinam, Pile 1 and Pile 2 mixed, a rather rough lot, at 2s. $4\frac{1}{2}$ d per pound. Block: 83 bags offered and bought in. At last preceding auction (October 31) 18 bales offered and 9 bales Sheet unassorted sold at 2s. 5d.

HAMBURG, November 11.—The market during the week was quiet. Very small quantities of Block and Leaf were dealt in. The buyers of Block are cautious, calculating that owing to the disturbances in Venezuela, large quantities had been held back, which will be shipped in the near future. Herein they are in error, because in the Venezuelan ports scarcely anything is stored, and prices are apt to advance rather than to recede, the inquiries promising to be very brisk within a few weeks. The average prices paid were 2s. 6d. Of Surinam Leaf small quantities were sold by second hands.

The market in Leaf is very firm and 2s. $5\frac{1}{2}$ d. per pound have been paid, and materially higher prices may be expected. It is understood that the condition in Holland and English markets has been correspondingly quiet, and insignificant quantities have been traded in.

Gutta-Percha.

WEISE & Co., of Rotterdam, report the following exports of Gutta-percha from Singapore for the first nine months of three years past:

Tons	1899.	1900.	1901.	1902.
	5652	4753	4538	3283

Liverpool.

WILLIAM WRIGHT & Co. report [November 1]:

Fine Pará.—With short receipts, and the probability of this state of things continuing for a month or two, the market has been strong and active, and prices have advanced 2¹/₂d. per pound. As we anticipated, the Americans have had to come on this market, which has further tended to stiffen prices. Manufacturers must remember that, although prices of Upriver have risen to 3s. 4d., they are still lower than they have been since 1896; that the statistical position of Pará is exceedingly strong; and even should there be no falling off in the crop this season, the present rate of demand leaves room for a further improvement in prices. The market closes very firm with no sellers of new Upriver under 3s. 4d.; old 3s. $4\frac{1}{2}$ d.; and Islands 3s. $1\frac{1}{2}$ d., and very little offering.

London.

EDWARD TILL & Co., November 1, report stocks:

	1902.			1901.			1900.		
	tons			tons			tons		
LONDON { Pará sorts.....	115			137			209		
{ Borneo.....	4			77			32		
{ Assam and Rangoon.....	319			477			690		
{ Other sorts.....	438			691			931		
Total.....	1237			1035			1182		
LIVERPOOL { Pará.....	2337			2602			3040		
{ Other sorts.....	662			1035			1182		
Total, United Kingdom.....	2337			2602			3040		
Total, October.....	2464			2802			2846		
Total, August 1.....	3053			2944			3645		
Total, July 1.....	3595			3128			3653		

PRICES PAID DURING OCTOBER.

	1902.	1901.	1900.
Pará fine, hard.....	3/1 ³ / ₄ @ 3/3 ³ / ₄	3/4 ¹ / ₂ @ 3/6 ¹ / ₂	3/1 ¹ / ₂ @ 4/2 ¹ / ₂
Do soft.....	3/0 ¹ / ₂ @ 3/1 ¹ / ₂	3/0 ¹ / ₂ @ 3/7 ³ / ₄	4/- @ 4/3
Negroheads, scrappy {	@ 2/8	@ 2/8	2/11 @ 3/1
Do Islands {	2/7 @ 2/8 ¹ / ₂	No sales.	2/3 @ 2/3 ¹ / ₂
Bolivian.....	3/3 @ 3/4	3/7 @ 3/8	No sales.

NOVEMBER 14.—The market for Pará rubber has shown increased strength and a further considerable business has been done at again dearer rates, but a quieter tone prevails at the close of the week and the best prices are barely maintained, closing at 3s. 5d. for fine hard on the spot and 3s. $5\frac{1}{4}$ d. for delivery. Sales include 5s. $5\frac{1}{2}$ d. @ 3s. 6d. for old import and old Bolivian. Fine soft cure sold up to 3s. $3\frac{1}{4}$ d. and since at 3s. $2\frac{1}{2}$ d. Scrappy negroheads dearer, with sales at 2s. $9\frac{1}{2}$ d. to arrive and 2s. 10d. spot. Islands sold at 2s. 2d. and large sales of Cametás up to 2s. $2\frac{1}{2}$ d. Peruvians have been in strong request with a good business in fine (Jebe) at 3s. $4\frac{1}{2}$ d.; ball (Caucho) at 2s. $7\frac{1}{2}$ d. @ 2s. 8d. with forward at 2s. $7\frac{1}{2}$ d. @ 2s. $7\frac{3}{4}$ d.; slab at 2s. 3d. and scrappy at 2s. 9d. Mediums continue in small supply and not much wanted; business has been done privately at an advance of about 2d. for good qualities. At auction to day moderate supplies were offered, mostly of indifferent qualities, but a good demand prevailed at full prices. Sales included Mollendo fine at 3s. $2\frac{1}{2}$ d.; Maniçoba (Ceará), 2s. $2\frac{3}{4}$ d.; Assam, fine red selected 2s. 6d., fair clean red old dry 2s. 1d.; Nyassa fair clean brown ball 2s. 5d.; ordinary red and livery ditto 2s. $1\frac{3}{4}$ d. @ 2s. $3\frac{3}{4}$ d.; Mozambique, fair clean red ball 2s.

7 $\frac{3}{4}$ d. @ 2s. 8d.; Sudan large sausage 2s. 4 $\frac{1}{4}$ d. Ceylon—14 cases offered and retired after 3s. 11 $\frac{1}{4}$ d. had been bid for fine (from Pará seed).

Para.

KANTHACK & Co. reported November 4: "The prevailing feature was a quiet sober demand, halting and irregular at times, but also brisk on a few rare occasions, until the falling off of the supplies has brought more life into the market. Owing to the fact that supplies are not keeping pace with those of last year, buying has been more active of late at improving prices. It is feared that the revolutionary movement in the Bolivian Acre, started by a few irresponsible Brazilians, will considerably curtail the production of rubber in that district and the same is likely to take place in the Béni region, since the Brazilian government has stopped Bolivian transit and exacts its high export duties on the Bolivian rubber passing through Brazilian territory. Some parcels, the property of Europeans, and consigned to merchants in Europe, have already been seized for the sake of the duties."

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Hamburg rubber market during the past week was firm in all departments. There were some important transactions due to strong inclinations to buy, and inquiries to fill requirements, affecting all sorts to advantage. There were large orders to buy from the United States, but the greater portion could not be filled on account of the lack of supplies. Prices for Pará fine, hard cure, spot and near, advanced to 7.50@7.65 marks, at which prices toward the end of the week no sellers could be found. Mollendo fine was in good demand at 7.20@7.25 marks. There were no offers for Manãos scrappy negroheads. The market closes firm with a tendency to advance still further. The sales included:

Mozambique ball, red "Donde".....	M	6.85@6.90
Do red "Mahenge".....		6.60@6.65
Do red "Mohorro".....		6.40@6.50
Do fine.....		6. @6.10
Do good.....		5.90@6.
Do unripe.....		3.90@4.
Do unripe, inferior.....		2.85@2.90
Massai niggers, fine.....		6.20@6.25
Adeli balls, fine.....		6.60@6.65
Kamerun balls, hard.....		4.30@4.35
Gabon balls, fine.....		4.20@4.25
Congo thimbles, black.....		5.25@5.35
Guatemala sheets, fine.....		4.40@4.50
Santos sheets.....		4.90@5.

Hamburg, November 16, 1902.

Antwerp.

THE offerings at inscription on November 28, mostly of Congo sorts, amounted to about 280 tons, the greater part of which was sold at an advance above brokers' estimations, according to cable advices received at New York, of about 4 cents per pound.

E. Karcher & Co. report the following principal lots offered and the valuations:

29,467 kilos Upper Congo Aruwimi.....	francs	6.
4,153 " Upper Congo Aruwimi		6.25
29,499 " Upper Congo Uelé.....		6.32 $\frac{1}{2}$
10,200 " Upper Congo balls.....		7.10
59,577 " Mongalla.....		6.50
455 " Upper Congo Equateur.....		7.10
18,355 " Kassai red (Loanda II sort).....		6.65
11,976 " Upper Congo Lomami red strips.....		7.10
2,453 " Upper Congo Lomami balls.....		6.75
39,206 " Upper Congo Lopori I.....		6.75
20,000 " Upper Congo Batouri.....		6.50
17,166 " Upper Congo Katanga balls.....		7.25

C. Schmid & Co. report that in the sale of October 28, of 389 tons of Congo sorts exposed, 379 tons were sold; 17 tons of other sorts offered were sold. Prices were very satisfactory,

being on the average 3 $\frac{1}{4}$ per cent. higher than at the September sale. In some instances as much as 6 per cent advance was paid for Upper Congo sorts. They note that the imports for the first ten months of the year show a decrease from last year's figures for the same period of 600 tons.

ANTWERP RUBBER STATISTICS FOR OCTOBER.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Sept. 30. <i>kilos</i>	456,711	866,143	1,004,762	307,482	226,874
Arrivals in October.	340,595	234,635	470,028	364,016	166,437
Congo sorts.....	306,258	194,177	431,417	166,821	142,686
Other sorts	34,337	43,457	38,611	138,125	24,381
Aggregating....	797,399	1,130,778	1,474,790	612,428	393,341
Sales in October....	447,171	804,673	565,743	463,690	158,690
Stocks, Oct. 31....	350,138	266,105	909,047	148,738	234,651
Arrivals since Jan. 1	4,369,518	4,960,761	5,054,496	2,933,333	1,581,946
Congo sorts	4,031,632	4,574,034	4,208,062	2,491,590	1,347,757
Other sorts	337,886	386,727	756,434	141,743	234,188
Sales since Jan. 1..	4,434,089	5,308,605	4,437,440	3,047,935	1,441,758

RUBBER ARRIVALS AT ANTWERP.

NOV 4.—By the *Anversville*, from the Congo:

Bunge & Co.... (Société Générale Africaine) <i>kilos</i>	144,365
Do	(Société Spécial Katanga) 12,442
Do	(Société Anversoise) 17,170
Société Coloniale Anversoise.. (Société "La Djuma")	4,500
Do	(Belge du Haut Congo) 25,400
Do	(Sud Kamerun) 1,900
Do	2,400
Société A B I R.....	14,000
Comptoir Commercial Congolais	5,500
Comptoir des Produits Coloniaux (Cie de la N'Goko)	3,400
Do	(Cie. des Produits de la Sangha) 700
W. Mallinckrodt & Co..... (Alimaïenne)	7,600
Société Agricole and Commercial de L'Alima.....	1,300
M. S. Cols.....	800
Evrard Havenith (Société Andrea).....	1,150
Société Equatoriale Congolaise (Société L'Kelemba).	2,000
Comptoir Commercial Anversoise (Société "La	
Loanje").....	4,000 248,627

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

November 1.—By the steamer *Horatio*, from Manãos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
William Wright & Co....	87,000	16,600	60,400	....=	164,000
Reimers & Co.....	60,300	16,800	32,000	....=	109,100
A. T. Morse & Co.....	44,900	6,000	34,600	....=	85,500
Edmund Reeks & Co....	21,200	7,400	2,900	....=	31,500
United States Rubber Co.	9,000	1,100	26,500	600=	37,200
New York Commercial Co.	157,200	42,700	22,100	....=	222,000
Boston Rubber Shoe Co..	.....	.....	11,400	....=	11,400
Kramrisch & Co.....	.....	.....	10,100	....=	10,100
Hagemeyer & Brunn.....	4,000	1,300	900	....=	6,200
H. A. Gould & Co.....	1,400	.....	1,900	....=	3,300
Total	385,000	91,900	202,800	600=	680,300

November 8.—By the steamer *Hubert*, from Manãos and Pará:

United States Rubber Co..	65,900	11,900	34,900	2,400=	115,100
Boston Rubber Shoe Co..	32,600	5,700	17,300	....=	55,600
Reimers & Co.....	47,200	17,400	24,600	....=	89,200
William Wright & Co....	55,700	3,900	16,400	....=	76,000
A. T. Morse & Co.....	6,000	300	50,600	....=	56,900
New York Commercial Co.	38,100	2,600	12,100	....=	52,800
Kramrisch & Co.....	.....	.....	11,000	....=	11,000
H. A. Gould & Co.	3,600	.....	600	....=	4,200
Hagemeyer & Brunn.....	.....	.....	1,300	1,200=	2,500
Total	249,100	41,800	168,800	3,600=	463,300

November 18.—By the steamer *Gregory*, from Manãos and Pará:

United States Rubber Co.	94,000	8,900	47,800	6,500=	157,200
William Wright & Co....	78,300	5,900	32,000	....=	116,200
Reimers & Co.....	66,900	22,300	19,900	....=	109,100
New York Commercial Co.	21,900	5,300	30,100	....=	57,300
A. T. Morse & Co.	13,100	1,100	50,000	....=	64,200
Boston Rubber Shoe Co..	32,100	3,900	16,500	....=	52,500

Edmund Reeks & Co.	14,100	600	2,900	.....=	17,600
Hagemeyer & Brunn	9,400	6,100	1,100	.....=	16,600
Kramirsch & Co.	.....	.....	7,000	.....=	7,000
Total	329,800	54,100	207,300	6,500=	597,700

November 24.—By the steamer *Amazonense* from Manáos and Pará:

United States Rubber Co.	97,700	14,000	49,700	3,600=	155,000
Boston Rubber Shoe Co.	34,400	5,700	15,900	.....=	56,000
Reimers & Co.	82,500	47,500	27,100	.....=	157,100

New York Commercial Co.	63,900	4,100	39,000	.....=	107,000
A. T. Morse & Co.	54,400	8,800	19,900	.....=	83,100
William Wright & Co.	30,400	6,100	44,300	.....=	80,800
Edmund Reeks & Co.	26,200	4,700	4,600	.....=	35,500
Hagemeyer & Brunn	7,100	4,000	4,000	.....=	15,100
Total	396,600	94,900	204,500	3,600=	694,600

[NOTE.—The steamer *Benedict* from Pará is due at New York on December 1, with 340 tons of rubber.]

PARA RUBBER VIA EUROPE.

POUNDS.

Oct. 28.—By the <i>Saxonia</i> =Liverpool:	
William Wright & Co. (Fine)	15,000
Reimers & Co. (Fine)	2,300
Reimers & Co. (Cauchol)	2,200
Nov. 1.—By the <i>Campania</i> =Liverpool:	
William Wright & Co. (Fine)	16,000
Nov. 5.—By the <i>Teutonic</i> =Liverpool:	
Reimers & Co. (Fine)	126,000
Reimers & Co. (Coarse)	5,500
Nov. 10.—By the <i>Umbria</i> =Liverpool:	
A. T. Morse & Co. (Fine)	28,500
Reimers & Co. (Fine)	26,500
Nov. 10.—By the <i>St. Louis</i> =Havre:	
A. T. Morse & Co. (Fine)	8,300
Nov. 12.—By the <i>Oceanic</i> =Liverpool:	
Reimers & Co. (Fine)	90,000
George A. Alden & Co. (Fine)	45,000
Nov. 17.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co. (Fine)	82,000
Reimers & Co. (Fine)	61,000
Nov. 20.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co. (Fine)	38,000
A. T. Morse & Co. (Fine)	13,500
Reimers & Co. (Fine)	16,000
Reimers & Co. (Coarse)	1,100

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.

Oct. 24.—By the <i>Cavour</i> =Bahia:	
J. H. Rossbach & Bros.	4,500
Oct. 25.—By the <i>Philadelphia</i> =London:	
Reimers & Co.	3,600
Oct. 25.—By the <i>Esperanza</i> =Mexico:	
American Trading Co.	2,200
E. Steiger & Co.	500
Harburger & Stack	200
Oct. 28.—By the <i>Allianca</i> =Colon:	
Hirzel, Feltman & Co.	25,600
American Trading Co.	5,200
G. Amsinek & Co.	5,100
Lawrence Johnson & Co.	4,000
A. Santos & Co.	3,100
D. A. De Lima & Co.	2,000
Dumarest & Co.	1,600
M. A. de Leon	1,000
Joseph Hecht	800
Oct. 28.—By the <i>Alenc</i> =Savanilla:	
J. W. Phyte & Co.	2,000
G. Amsinek & Co.	1,000
Jimenez & Escobar	500
Isaac Brandon & Bros.	1,500
Guiterman, Rosenfeld & Co.	1,000
Lawrence Johnson & Co.	1,400
Kunhardt & Co.	200
Oct. 30.—By the <i>El Dia</i> =New Orleans:	
A. T. Morse & Co.	3,300
Manhattan Rubber Mfg. Co.	2,500
Eggers & Heinlein	300
Nov. 3.—By the <i>Vigilancia</i> =Mexico:	
H. Marquardt & Co.	3,000
American Trading Co.	1,000
Nov. 5.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.	3,000
Nov. 5.—By the <i>Blucher</i> =Hamburg:	
A. T. Morse & Co.	1,100
Reimers & Co.	900
Nov. 8.—By the <i>Monterey</i> =Mexico:	
Thebaud Brothers	2,500
Harburger & Stack	200
H. Marquardt & Co.	600
Nov. 6.—By the <i>Finance</i> =Colon:	
H. rzal, Feltman & Co.	28,800
Meeke & Co.	3,200
Isaac Brandon & Bros.	3,800
M. A. de Leon	900
United Fruit Co.	1,500
G. Amsinek & Co.	1,500
Lawrence Johnson & Co.	500

CENTRALS—Continued.

Nov. 10.—By the <i>Herelius</i> =Bahia:	
J. H. Rossbach & Bros.	3,300
Nov. 10.—By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co.	4,500
Manhattan Rubber Mfg. Co.	2,500
Eggers & Heinlein	500
Nov. 11.—By the <i>Segurana</i> =Colon:	
American Trading Co.	16,000
Hirzel, Feltman & Co.	11,500
A. Santos & Co.	5,300
Lawrence Johnson & Co.	2,500
Frame, Alston & Co.	2,300
H. W. Peabody & Co.	600
Roldan & Van Sickle	600
G. Amsinek & Co.	600
Nov. 12.—By the <i>Soldier Prince</i> =Bahia:	
J. H. Rossbach & Bros.	35,000
Nov. 14.—By the <i>Croatia</i> =Greytown:	
Andreas & Co.	800
E. B. Strout	500
G. Amsinek & Co.	100
Jimenez & Escobar	200
Kunhardt & Co.	100
For Bremen	1,000
Nov. 14.—By the <i>Pretoria</i> =Hamburg:	
Reimers & Co.	2,200
Nov. 14.—By the <i>El Valle</i> =New Orleans:	
A. T. Morse & Co.	9,100
Manhattan Rubber Mfg. Co.	6,000
Nov. 15.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.	2,000
Graham, Hinkley & Co.	500
J. Marquardt & Co.	500
For Hamburg	2,500
Nov. 18.—By the <i>City of Washington</i> =Colon:	
G. Amsinek & Co.	3,200
E. Scheitlin & Co.	1,100
L. N. Chemedin & Co.	800
Everett, Heaney & Co.	500
Andreas & Co.	300
H. Marquardt & Co.	200
Nov. 18.—By the <i>Alleghany</i> =Greytown:	
E. B. Strout	13,500
A. D. Straus & Co.	2,000
G. Amsinek & Co.	800
Lawrence Johnson & Co.	600
C. Wessels & Co.	300
Jimenez & Escobar	800
Kunhardt & Co.	600
For London	200
Nov. 19.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.	3,000
Lawrence Johnson & Co.	1,000
Nov. 20.—By the <i>Tennyson</i> =Bahia:	
G. Amsinek & Co.	10,700
J. H. Rossbach & Bros.	7,500
Nov. 22.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co.	1,000
Parke, Davis & Co.	600
American Trading Co.	500

AFRICANS.

POUNDS.

Oct. 28.—By the <i>Friesland</i> =Antwerp:	
Otto Meyer	9,500
Oct. 28.—By the <i>Saxonia</i> =Liverpool:	
A. T. Morse & Co.	11,000
Otto Meyer	2,000
Oct. 31.—By the <i>Germanic</i> =Liverpool:	
George A. Alden & Co.	11,500
H. A. Gould & Co.	2,000
Oct. 31.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.	60,000
George A. Alden & Co.	3,000
Otto Meyer (Boston)	19,000
Oct. 31.—By the <i>Bees</i> =Bordeaux:	
Joseph Cantor	4,500
Nov. 1.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	8,000
Otto Meyer	8,000

AFRICANS—Continued.

Nov. 3.—By the <i>St. Paul</i> =London:	
Reimers & Co.	6,000
H. A. Gould & Co.	6,500
Nov. 3.—By the <i>Noordam</i> =Rotterdam:	
Joseph Cantor	11,000
Nov. 5.—By the <i>Blucher</i> =Hamburg:	
Otto Meyer	5,500
A. T. Morse & Co.	6,000
Nov. 5.—By the <i>Kensington</i> =Antwerp:	
Reimers & Co.	46,000
Nov. 5.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.	16,000
Reimers & Co.	4,500
Earle Brothers	2,500
Nov. 10.—By the <i>Umbria</i> =Liverpool:	
Otto Meyer	10,000
Kramirsch & Co.	11,500
A. T. Morse & Co.	18,000
Nov. 10.—By the <i>Bohemian</i> =Liverpool:	
Reimers & Co.	22,500
George A. Alden & Co.	2,000
Nov. 11.—By the <i>Friesland</i> =Antwerp:	
A. T. Morse & Co.	82,000
Reimers & Co.	57,000
William Wright & Co.	23,500
Joseph Cantor	4,000
Nov. 11.—By the <i>Oceanic</i> =Liverpool:	
Reimers & Co.	8,000
George A. Alden & Co.	2,500
Nov. 14.—By the <i>Pretoria</i> =Hamburg:	
A. T. Morse & Co.	21,000
George A. Alden & Co.	8,500
Reimers & Co.	1,000
Nov. 17.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co.	10,000
Kramirsch & Co.	15,000
George A. Alden & Co.	8,300
Joseph Cantor	8,500
Otto Meyer	1,500
Nov. 18.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.	330,000
Nov. 20.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co.	32,000
A. T. Morse & Co.	5,500
Reimers & Co.	11,000
Earle Brothers	5,000
Nov. 21.—By the <i>Graf Waldersee</i> =Hamburg:	
A. T. Morse & Co.	32,000
George A. Alden & Co.	17,500

EAST INDIAN.

POUNDS.

Oct. 31.—By the <i>Seneca</i> =Singapore:	
Reimers & Co.	14,000
Robinson & Tallmann	8,000
Nov. 17.—By the <i>Philadelphia</i> =London:	
Reimers & Co.	15,000
Nov. 19.—By the <i>Afridi</i> =Singapore:	
Reimers & Co.	25,000
D. P. Ornkshank	14,000
Oct. 31.—By the <i>Seneca</i> =Singapore:	
Reimers & Co.	275,000
George A. Alden & Co.	190,000
Robinson & Tallmann	75,000
Robert Brans & Co.	6,500
Nov. 15.—By the <i>Satsuma</i> =Singapore:	
Vartons Consignees	200,000
[Cargo destroyed by fire.]	
Nov. 19.—By the <i>Afridi</i> =Singapore:	
George A. Alden & Co.	170,000
Robert Brans & Co.	180,000
William Wright & Co.	125,000
Reimers & Co.	55,000
Nov. 20.—By the <i>Heathburn</i> =Singapore:	
Robert Brans & Co.	300,000
Reimers & Co.	150,000

GUTTA-PERCHA AND BALATA.

		POUNDS.
Oct. 31.—By the <i>Seneca</i> =Singapore:	George A. Alden & Co.	3,000
Nov. 14.—By the <i>Pretoria</i> =Hamburg:	Reimers & Co.	3,300
Earle Brothers.	1,500	4,800
Nov. 19.—By the <i>Afridi</i> =Singapore:	Robert Brans & Co.	9,000
Nov. 20.—By the <i>Philadelphian</i> =London:	To order.	5,000
Nov. 20.—By the <i>Heathburn</i> =Singapore:	George A. Alden & Co.	1,500
P. T. Butts.	11,500	13,000

BALATA.

Oct. 29.—By the <i>Netherlands</i> =Samarang.	G. Amsinck & Co.	2,500
Nov. 3.—By the <i>St. Paul</i> =London:	Earle Brothers.	3,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—OCTOBER.

		POUNDS.	VALUE.
Imports:			
India-rubber.	3,560,030	\$1,892,945	
Gutta-percha.	none	none	
Gutta-jelutong (Pontianak).	1,420,790	34,417	
Total.	4,980,820	\$1,927,362	
Exports:			
India-rubber.	18,772	\$14,958	
Reclaimed rubber.	67,562	9,143	
Rubber Scrap Imported.	1,475,616	\$89,231	

BOSTON ARRIVALS.

		POUNDS.
Oct. 7.—By the <i>Bostonian</i> =London:	Otto Meyer—African.	2,435
Oct. 15.—By the <i>Kansas</i> =Liverpool:	Robinson & Tallman—Caucho.	3,900
George A. Alden & Co.—African.	4,680	
Reimers & Co.—African.	16,627	25,207

Oct. 17.—By the <i>Sylvestria</i> =Liverpool:	Reimers & Co.—Fine Pará.	30,123
Oct. 20.—By the <i>Columbian</i> =London:	George A. Alden & Co.—African.	2,142
Oct. 22.—By the <i>Kronland</i> =Antwerp:	George A. Alden & Co.—African.	24,328
Total.		84,235

[Value, \$50,191.]

[NOTE.—In addition to the above arrivals, embraced in the Customs returns during the month, is to be included:]

Oct. 20.—By the <i>Sagamore</i> =Liverpool:	Reimers & Co.—African.	19,800
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PONTIANAK.

Oct. 13.—By the <i>Athesia</i> =Hamburg:	Reimers & Co.	10,919
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GUTTA-PERCHA.

Oct. 13.—By the <i>Athesia</i> =Hamburg:	Reimers & Co.	1,200
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OCTOBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.	38,420	5,950	66,224	—	110,594	145,520	15,300	31,240	300	192,360	302,954
Frank da Costa & Co.	65,145	12,028	173,215	1,500	252,888	146,126	17,956	52,404	1,650	218,136	471,024
Adelbert H. Alden.	38,032	2,130	26,002	—	66,164	114,960	13,860	23,640	2,681	155,141	221,305
Singlehurst, Brocklehurst & Co.	—	—	5,491	—	5,491	20,130	1,755	6,655	—	28,540	34,031
Neale & Staats.	3,060	2,040	9,280	—	14,380	13,235	2,037	2,686	557	18,515	32,895
Denis Crouan & Co.	49,768	6,175	37,320	141	93,404	33,456	4,840	34,295	230	72,957	166,361
Pires, Teixeira & Co.	—	—	—	—	—	6,386	—	813	—	7,199	7,199
Sundry small shippers.	—	—	—	—	—	5,476	—	2,855	—	8,331	8,331
Direct from Iquitos.	—	—	—	—	—	55,160	362	18,118	49,603	123,243	123,243
Direct from Manaos.	314,534	85,918	63,165	2,560	466,177	316,963	63,044	47,645	12,221	439,873	906,050
Total for October.	509,959	114,241	380,697	4,201	1,009,098	857,442	119,160	220,451	67,242	1,264,295	2,273,393
Total, July-September.	825,477	205,638	797,332	99,555	1,928,002	1,463,955	233,176	408,319	260,187	2,371,337	4,299,339
TOTAL CROP YEAR.	1,335,436	319,879	1,178,029	43,756	2,937,100	2,330,497	352,936	628,770	333,429	3,635,632	6,572,732

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1902.	3,954,921	236,557	3,718,364	September, 1902.	3,043,712	2,814,224	229,488
* January-August.	33,655,648	2,300,776	31,354,872	January-August.	31,945,784	20,225,958	11,722,816
Nine months, 1902.	37,610,569	2,537,333	35,073,236	Nine months, 1902.	34,992,496	23,040,192	11,952,304
Nine months, 1901.	40,451,040	2,919,422	37,531,618	Nine months, 1901.	39,174,960	24,182,480	14,992,480
Nine months, 1900.	34,493,337	2,997,409	31,495,928	Nine months, 1900.	45,109,068	25,326,224	19,782,844

GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1902.	2,520,320	1,426,700	1,093,620	September, 1902.	82,280	960	81,320
January-August.	22,307,780	8,774,260	13,533,520	January-August.	964,260	81,620	882,640
Nine months, 1902.	24,828,100	10,200,960	14,627,140	Nine months, 1902.	1,046,540	82,580	963,960
Nine months, 1901.	21,246,060	7,695,820	13,550,240	Nine months, 1901.	1,122,220	165,440	956,780
Nine months, 1900.	22,523,160	7,353,280	15,169,880	Nine months, 1900.	1,151,260	—	—

FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1902.	912,780	1,484,120	† 571,340	September, 1902.	254,540	220	254,320
January-August.	11,578,160	5,625,840	5,952,320	January-August.	1,742,840	11,000	1,731,840
Nine months, 1902.	12,490,940	7,109,969	5,380,980	Nine months, 1902.	1,997,380	11,220	1,986,160
Nine months, 1901.	12,116,060	7,713,420	4,402,640	Nine months, 1901.	1,926,760	25,050	1,901,680
Nine months, 1900.	12,764,400	7,692,520	5,071,880	Nine months, 1900.	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* Corrected figures.

† Net export for month



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THE CONDITION OF THE TRADE.

THE record of the past year in the India-rubber industry in the United States, on the whole, has been satisfactory. The demand for goods has been steady and in good volume, but without showing any advance over the best recent years, and in most branches the prices of products have been well maintained. The feature least satisfactory to the manufacturer has been the upward tendency in the cost of raw materials—of crude rubber, latterly, and of cotton and other goods throughout the year. The generally satisfactory condition of business has been favorable to the rubber trade, but the year has shown no such specially marked development in the various industrial branches as to create a larger demand than usual for rubber goods. In this respect the growth in the trade for two or three years past has not been duplicated. Purchasers of large amounts of belting, hose, and the like, are desirous of making them last as long as possible, and the equipment of a given large new industrial plant is not repeated every year.

The considerable development in the mechanical rubber branch, keeping pace with improved industrial business conditions, which followed the last period of general depression, resulted in the establishment of a number of new rubber factories, so that to day the capacity of the industry is perhaps 25 per cent. in excess of the normal demand for products. In some instances a result of this condition has been a disposition to make concessions in prices, in order to capture trade, especially on the part of the newer establishments. This has been resisted, however, to the general advantage of the trade, by the more conservative companies, whose position in the matter has been strengthened by the increased cost of production due to advances in raw materials.

During the year there has been no further development in the consolidation of the industry in so far as the inclusion of other companies in the existing combinations is concerned. A feature not without interest to the trade as a whole has been the policy on the part of the consolidated company in the mechanical goods trade of unifying its management in each of the more important branches of production, which may be expected to produce better returns and place the company in a more stable position, with the general effect of steadying prices and lessening the pressure of competition—a result which will be no less helpful to the independent companies.

It is too early to comment in detail upon the rubber shoe trade, since the showing of the balance sheets of the manufacturing companies must depend upon the demand for footwear during the winter, the greater part of which is yet to come. It may be said, however, that production has been active since April 1, and manufacturers have had the benefit during much of this time of rubber at a lower cost than for three or four years past, while sales to the trade have been made on rather more favorable terms. Besides, the winter has opened well, from the rubber standpoint, rain and snow having fallen in most parts of the rubber shoe wearing belt in sufficient quantities to

stimulate buying on the part of the public. The factories in this branch are reported to have been unusually busy.

Lately has been developed a more general movement than at any time hitherto, on the part of organized labor, to bring the rubber workers of the country under the control of unions, but the greater diversity of work and wages in a given rubber plant than in many other industrial establishments is in itself a considerable obstacle to the unionizing of rubber workers and the standardization of wages. Moreover, the movement seems to have had its inception, not in any expressed grievances of rubber factory employes, but in the minds of professional organizers on the outside, who evidently regard this, on account of the large number employed and the generally good standard of wages, as a ripe new field for their peculiar activities.

A FIFTH WHEEL NOT NEEDED.

THE proposal now being discussed seriously at Washington, to create a governmental department of commerce, appears to us to be very much in the nature of adding "a fifth wheel to a wagon"—a term widely used to describe an appendage that not only is useless, but is likely to get in the way and thereby impede progress. We are aware that the proposal has the support of men of prominence in business affairs and in political life, but this alone is not proof that the need exists for an additional arm of the government. Not all the so-called commercial organizations in the country can claim real merit—some of them exist only to promote personal ends, being ready to support any new movement if the names of their active members may thereby be brought into the newspapers.

It is probable, however, that the new measure has received the serious support of some business men because they believe that a department of commerce would help to extend our foreign trade, but it remains to be pointed out what services in this direction could be rendered by a secretary of commerce sitting in the president's cabinet better than by the existing official bureaus at Washington. In fact, all the claims made for the new department have been most vague and unconvincing, nor are the advocates of the measure agreed as to what powers should be given to the new secretary, or what he should be expected to accomplish. He could have no authority over the consular service, which is expected to be helpful to our commerce, because that in the nature of things belongs to our department of foreign affairs. Nor could he control the administration of the customs laws, which belongs to the treasury department, or negotiate commercial treaties, without vitally changing the federal constitution. In fact, the proposal now being considered involves little beyond creating a new office to which shall be turned over certain statistics now required by law to be collected by several different bureaus, in which event they doubtless would be made available for the public less promptly than now, on account of passing through more hands.

The manufacturers and others who look to the government, through the creation of new offices, to sell more of

their products abroad, labor under a mistaken view of the laws of trade. At home, a manufacturer seeks first to produce an article suited to the needs of possible buyers; he then works to make them familiar with its merits; he next puts it where they can buy it, and if the price appears too high he manages to remove that objection, through decreasing the cost of production, eliminating middlemen's profits, or otherwise, but without once thinking of asking for help from the government. If the same manufacturer should desire to do business in Europe, or Corea, or Patagonia, precisely the same procedure would be necessary, and not one nor twenty new government departments could relieve him of the necessity of making his own markets if he would sell goods.

NOT SUCH A BAD SHOWING.

WE do not know anything in regard to Mr. Frederick J. Haskin beyond the fact that he has written to the *Philadelphia Record*, from Mexico, a long letter advising extreme caution in the matter of making investments in rubber planting in that country. THE INDIA RUBBER WORLD does not feel called upon to defend the rubber planting interest against all criticisms, nor has it ever urged anybody to plant rubber. Our reason for mentioning Mr. Haskin's letter is to suggest that the statement of results which he quotes as proving his case would be regarded by very many people who are interested in rubber as particularly encouraging. The quotation which follows was derived by Mr. Haskin from what he calls "an honest concern" doing business in Mexico, and he asserts that it "is based on facts":

We sent a representative to make a tour of the cultivated rubber groves in Mexico that had been tapped and their products marketed. At a plantation near the town of Tuxtepec, on the gulf side of the state of Oaxaca, near the line of the state of Vera Cruz, the planter stated that he had tapped 350 of his trees and obtained from them 800 pounds of clean rubber for market. A few of these trees were planted twenty years ago and yielded as high as 12 pounds, but the most of them were from seven to nine years old and the average yield of the latter was two pounds of net rubber to the tree. Five months after being tapped these trees were in fine condition, the wounds in the bark being filled with the new wood so they will be ready to tap again next season.

To prepare the rubber the sap was caught in buckets and poured out on the cement floor used for drying coffee. It was allowed to stand to a depth of two inches and left for several days to dry in the sun. It was then cut into long strips, rolled up into compact form, and shipped in this condition. The rubber netted the planter \$1 per pound in silver.

The money value of the yield above stated was equal to only \$312 in United States currency, and such an amount as a total result from planting 350 trees and waiting for from seven to nine years may not at first seem an attractive proposition. But if these trees were in the fine condition stated five months after tapping, and "ready to tap again next season," if the report means anything, it is that an equally good return—*i.e.*, a profit of \$312, gold, from about two acres of land—may be expected again year after year, without any other expenditure than for the collection of the rubber. On the whole, the letter writer from Mexico, in the only statement of fact which he presents in support of his warning to Americans, does not

appear to us to make a very bad showing for rubber culture. The plantation referred to evidently is that of Señor Joaquín Jiménez, some details concerning which, in our issue of August last, were probably more accurate than those given by Mr. Haskin.

A NEW RUBBER SWINDLE.

WE give space this month to a contribution unusual for the pages of THE INDIA RUBBER WORLD, in that it involves a direct charge of fraud against a person named therein, and against whom no legal proceedings have been brought. We have been aware for some time that rubber manufacturers were being approached by the inventor of an alleged artificial India-rubber—showing samples which possessed value, but which were unquestionably composed of real rubber or largely so—with a view to obtaining money from them for the further development of its production. We are reliably informed, also, of considerable sums of money having been obtained from persons of the highest business standing, but without a practical knowledge of rubber or the rubber business, who were made to believe that this was a valuable product that could be manufactured at such a low cost as to promise very large profits. The author of the communication which we give space to is a gentleman of the highest standing, who, in his professional capacity, as a member of a leading legal firm in New York city, was called upon to take part in negotiations looking to the investment by some clients of capital in the alleged artificial rubber industry. In a note to the Editor, in addition to his letter which we print, Mr. Stayton writes: "My honest conviction, after a great deal of investigation, is that this process is a fraud, and that it is being used to swindle. If I can do anything to prevent the public being deceived any further in the matter I should like to do so."

ONE MAY GAIN A LIVELY SENSE of the frugal nature of the Chinaman, at home, from a study of the new tariff schedule which, after so much discussion, has gone into effect in the Celestial empire. To illustrate the rigorous nature of the import duties, 20 *cash* must be paid on every pair of India-rubber shoes brought in from the outside barbarian world—20 *cash*, a sum too small to be expressed conveniently in the money of the United States. The duty on 1000 pairs of "rubbers" would be \$12.62. Thrifty, indeed, are the people who concern themselves, in tariff making, with such minute computations. And here is a chance for Germany, where the makers of rubber footwear complain of the high tariff walls that keep their goods out of Russia and the United States, while the surplus production of these countries pours ceaselessly over the lower walls of the *Zollverein*. Sell rubbers in China! No high tariff laws there—a duty of less than 5½ *pfennige* a pair for rubbers, and more people than could be supplied with rubbers in a century.

SOME ITEMS OF MORE THAN USUAL INTEREST appear in our notes on rubber planting and exploitation this month. For instance, there is reported the formation of a company to plant *Hevea* rubber in Cuba, from seeds yielded by a number of trees brought to that island from Brazil a good while ago. Samples of rubber from these trees sent to THE INDIA RUB-

BER WORLD are very fine, indeed. The only criticism possible to make is that it is a little sour, owing to the fermentation of the albumen. If better coagulated or dried more quickly, this Cuban product, judged by these samples, ought to be equal to the best rubber now obtained from Pará. There is reported on another page the first importation of rubber from the Philippines into the United States, by a manufacturer who expects, from the character of the samples obtained by him from that quarter, to find the rubber of considerable value, in spite of somewhat unfavorable reports hitherto regarding the quality of Philippines rubber. Should he attain the results expected, it may lead to an important development of rubber production under the United States flag. Among new rubber planting companies mentioned is one organized as a joint stock company, pure and simple, instead of the sale of shares on the installment plan as has been the rule with planting companies formed in this country hitherto to operate in Mexico. The new plan appears to have merit, and may in time supersede the older procedure.

THE INDIA RUBBER WORLD HAS BEEN CAREFUL, as a rule, not to poke fun at its esteemed contemporaries, but where one is as far away as Canada and when it is as good and capable a publication as the *Canadian Shoe and Leather Journal*, it may not be risky to comment briefly on the description of making rubber shoes which appeared in its November issue, particularly as the article is commended by the writer to all shoe clerks who handle rubbers and who may thus be able to talk intelligently upon their production. The part of the article which has its touch of humor reads as follows (the italics being ours):

The rubber which is to form the uppers is *coated* with a *tricotie tissue*, by passing through a *culendar*; that intended for the soles is passed through another *culendar*, and each of the other parts is also passed through a *culendar* - - - They are then varnished with *asphalt lacquer* and then *revulcanized* for seven or eight hours at a temperature of 260° F. The shoes are then ready to be sold.

Of course, this is mighty interesting to the shoe clerks, and if they could sell rubbers, the stock for which was run through a "culendar" (collander?), "lacquered with asphalt," and "revulcanized," they would be mighty good salesmen. But after all it does not make much difference what the shoe clerk knows of the details of manufacture if he has good rubbers and knows how to fit them. He might claim they were made in a churn and painted with black whitewash, and people would still continue to buy and would appreciate a good article when they got it.

AN EXPENSIVE AUTOMOBILE made to the order of the sultan of Turkey was on exhibition lately in Paris. It is not surprising to hear since that the number of the sultan's wives has been reduced 94 per cent. Presumably every one of the ladies of the imperial harem, on seeing the gorgeous new rubber tired vehicle, insisted on having one for herself, and not all the revenues of the empire would have been sufficient to buy so many. Funny, isn't it, that the invention of the automobile may be a means towards the abolition of polygamy?

THE STATE TAXING AUTHORITIES OF OHIO having decided that "good will" and "trade marks," when included in the assets of a corporation, are assessable, the same as any other property comprised in its capital account, the idea may be expected to find adoption in other states, with the effect of greatly discouraging any tendency to overcapitalization on the part of public companies.

DR. WEBER'S NEW BOOK ON INDIA-RUBBER.

THE CHEMISTRY OF INDIA RUBBER, INCLUDING THE OUTLINES of a Theory of Vulcanization. By Carl Otto Weber, Ph.D. With four plates and several illustrations in the text. London: Charles Griffin & Co., Limited. 1902. [Cloth. 8vo. Pp. xii+314.]

THE appearance of a new work on India-rubber, and especially one on a comprehensive plan, from a competent pen, is so rare as almost to mark an epoch in the industry, and therefore deserves to be noticed at length in the columns of a journal devoted to the news of the trade. The author of the work under review has devoted many years to the subjects named in its title, in his capacity of chemist to important rubber factories, during which time he has been a prolific contributor to technical periodicals. It is of interest now to have in one volume a résumé of his work bearing upon the nature of the process of vulcanization, and in the analysis of rubber and rubber goods.

Dr. Weber to some extent disarms criticism in a paragraph in his preface in which he distinctly says that manufacturing processes as such have not been dealt with, as to have done so would have resulted in the destruction of the unity and aim of the work. In other words, he has been content with writing a book that is theoretical and technical, dealing wholly with the chemistry of India-rubber, including the outlines of a theory of vulcanization. It is not the fault of the author that rubber manufacturers and their superintendents in most cases know little of chemistry, have a horror of theory, and only seek for an explanation of interesting phenomena when it appears profitable so to do. The author has evidently done an immense amount of work for the work's sake. In his enthusiasm as a scientist to solve the many intricate problems that the chemistry of India rubber suggests, the thought of cheapening compounds, or saving dollars for himself or anybody else, has not entered his mind. It must be said that he has produced a work that for a long time to come will be the standard, the world over, on the subjects of which it treats. It will be valuable and much appreciated in all technical schools; it will be helpful to chemists, particularly those whose profession touches the rubber trade; but it will be of very little use to the ordinary manufacturer or superintendent. The nine chapters in the book cover the chemistry of India-rubber, the examination of India-rubber substitutes, inorganic compounding materials, vulcanizers and sulphur carriers, coloring matters, constructive components of India-rubber articles, and the analysis of rubber articles.

To one who reads this work carefully, the impression comes with some force that the author is more familiar with mackintosh clothing, druggists' sundries, and hard rubber, than with some of the equally important lines, such as rubber footwear, mechanical rubber goods, and insulated wire, though this is evident only where he is led to generalize on manufacturing processes or results. For example, he says, in speaking of tar [page 268]: "As far as the author's experience goes, it tends to show that, at any rate in soft rubber goods, its use is of the rarest occurrence." Now rubber boots and shoes are certainly soft rubber goods, and a factory making 5000 pairs of rubber boots and shoes per day, would use about 400 pounds of tar. In the United States certainly 200,000 pairs of rubber boots and shoes are made daily, which would mean an annual use of 4,800,000 pounds of tar. Adding to this 200,000 pounds yearly for use in carriage cloth, surface clothing, melodeon cloth, and proofing, there is an annual consumption of 5,000,000 pounds, all used in soft rubber goods.

Then Dr. Weber claims [page 205] that undervulcanized articles are much more prone to decomposition than overvulcanized ones. It is an acknowledged fact that a rubber shoe which blooms is not vulcanized enough, and yet such a shoe will show a lasting quality and wear that is phenomenal. Again, our author says that chrome yellows cannot be used for hot cured goods, but behave very well in the cold cure process. One of the large rubber shoe factories in the United States makes a rubber boot on which is a bright yellow brand. This brand is made of rubber compounded with chrome yellow, a little oxide of zinc, a small percentage of sulphur, and is cured in an open heat for six or seven hours, at about 270° F.

The foregoing instances would lead one to imagine that the Doctor was not familiar with American processes in boot and shoe manufacture, which, indeed, he does not claim. Another thing that will strike the American manufacturer is the omission of any mention of palm oil, and only one mention of pontianak, which oil and gum have both made themselves indispensable in certain lines of mechanical compounding. On page 303, speaking of non-blooming goods, under (b), the condition is given: "Vulcanizing under such conditions that, at the end of the operation, all the free sulphur has disappeared." In commenting on this, further down the page, the author says: "Method (b) can only be used with goods vulcanized by the open cure, in which the sulphur vapors may freely pass off the vulcanizing goods." It is, however, well known in mechanical rubber mills that black mold work absolutely non blooming can be and is made from stocks compounded for the open cure.

Not to attack another of Dr. Weber's theories, but simply to ask an explanation, we quote [page 118]: "It is at the present time often assumed that the percentage of resinous matter in India-rubber may be taken as an indication of the care bestowed upon its collection, coagulation, and preparation for the market in general. I have, however, satisfied myself that this view is not correct." Turning to page 122, we find in the very exhaustive tables there shown, the amount of resin in fine Pará, upriver, hard cure rubber, to be 1.3 per cent., while in negro-heads, which is the same rubber, carelessly collected and coagulated, it is 6.7 per cent.; or the same as Cartagena rubber or Sierra Leone twist rubber. Whence the 5.4 per cent. extra resin?

It is of course only fair to say that few theories concerning the chemistry of India-rubber have yet been established, and that almost any practise that gives such results as to lay down laws for certain lines of work, and sometimes for certain factories, is absolutely reversed in other lines of work and in other factories. In drawing attention to the points above, it is not the writer's intention in any way to minimize the work which Dr. Weber has brought out. Indeed, we feel that the Doctor has not written hastily, or carelessly, and we doubt not that if answer comes from across the water each point will be most thoroughly elucidated. The writer, however, would like to inquire if, in the historical introduction of the story of vulcanization [page 41], where Dr. Weber says: "It was unquestionably Nelson Goodyear, who, in 1839 first definitely established the fact that the treatment of India rubber with sulphur at high temperatures, etc.," he did not mean Charles Goodyear, rather than his brother Nelson, who came into prominence twelve years later, and then only as the patentee of hard rubber.

- REGENERATION OF OLD RUBBER AND WASTE RUBBER.*

By L. Edgar Andés.

UNDER the name of "old rubber" are included all the rubber articles of any kind whatsoever, which have been in use and can no longer serve their purpose, and hence are to be discarded and destroyed. While these almost worthless waste products, for such they must be designated, did not serve, twenty years ago, any other purpose than to be burned up, a number of uses have since been found for them, and their value varies, according to condition and purity, from 1 to 6 marks per kilogram [= 11 to 65 cents per pound], so that the collecting and sorting pays tolerably well. The utilization of the products is not such that they are subjected directly to a regeneration process, but rather they are used in the cleaned and reduced state for intermixing. The manufacturing waste proper, such as unvulcanized rubber, the so-called clippings, etc., however, because they are of good quality, are generally used in the manufacture in place of the cheap kinds of crude rubber; they are not resinous, rather elastic, and do not become porous as soon as inferior crude rubber, besides which the washing and attendant losses are avoided. The natural colored clippings have a higher value than the colored ones, which latter cannot be employed for all purposes; but they are not frequently met with, as they are generally worked up again in the factories.

The main bulk of the scrap rubber, however, results from vulcanized rubber and from hard rubber, the former being distinguished as follows: (1) Scrap with fillings, and (2) scrap without fillings. These in turn are divided into floating and non-floating—i. e., with or without weighting or other admixtures.

The following are counted among scrap with filling: Playing balls, usually with a hard and fissured inside rubber layer caused by ammonia, which have to be boiled out very carefully; balls from surgical instruments, atomizers, etc., as well as all the various gray and red rubber articles used in surgery; also, toys, dolls, pump valves, pressed plates, centrifugal pads, rubber hose, discs, bandsaw covers, bicycle and other tires, roller coverings, etc.

Among the items of waste of this kind of inferior value are: Plates and other technical articles, rubber erasers, irrigator tubing, rings of every description, oil valves, etc. Furthermore, there are scraps from rain coats, whose linings of fabric are pulled off mechanically or destroyed by acids; and old rubber shoes, which, especially in America, are valued as an admixture. Rubber lined linen and cotton hose, vulcanized and unvulcanized, and rubber coated asbestos fabric scrap, freed from wires and brass tissues, are also readily sold.

To accomplish a rational utilization, the floating scrap and such as sink only after remaining in the water for some time, has to be separated in this case; also the different colors, which are assorted into gray and variegated. The floating scrap without filling—that is, such as contain only crude rubber and sulphur—has a specific gravity from 0.99 to 1.0; but there are also floating scraps which are mixed with rubber substitutes or with boiled out floating waste. Among the floating scraps are hose and rings of every description, valves, roller coverings, boundary straps, Pará products, billiard cushions, thread waste from rubber weaving, etc.

The floating waste must be elastic and must, drawn out to a certain length, re-assume its former condition, and not bend or be brittle. Among the semi-floating waste are pneumatic covers pulled off from the layer of fabric, nipples, gloves, surgical patent rubber goods, rubber dress shields, imitation patent plates, and articles made from them. The value of this waste is less because the quality suffers through the chlorine in vulcanizing and, in the case of patent rubber, admixtures of artificial rubber are frequent. The specific gravity of the semi floating scrap is 1.0 to 1.10 as the maximum; if lying for a long time in water the scrap becomes spongy, soft, or sticky, and then sinks to the bottom.

The hard rubber scrap furnishes a large contingent, but, owing to the foreign admixtures (pumice stone, chalk, magnesias, soapstone, talcum, and heavy spar) it is of inferior value. Scraps from electrotechnical factories and electrical works are of good quality, have a smooth, not rough, black fracture, are glossy, can be pulverized, and, if used along with other rubber, are susceptible of a polish.

For the purpose of utilization, the hard rubber scrap is first broken up by means of a rolling balls grinding mill and then, for further reduction, conveyed to the disintegrator. The product of the latter is finely ground by means of rollers and sifted; then the coarser particles are again treated, and finally the fine product of the grinding is blown into a dust chamber, where it deposits in different degrees of fineness, owing to its varying gravity, and is freed from adhering iron particles by means of magnet apparatus. The waste of the various assortings is chiefly used in the Caoutchouc industry, for insulating substances, in the varnish manufacture, in the production of emery discs, etc., and the treatment to which they are subjected after the assorting and mechanical cleaning is mainly that of removing the adhering and absorbed acids, the salts etc., and the separation of free sulphur. The scrap is generally washed for some time, under great pressure, with caustic soda lye or hydrochloric and sulphuric acids, respectively, and then treated further with clean water. The object is the removal of the free sulphur, while the bound sulphur remains in the mass.

Although the cleansing of vulcanized Caoutchouc by complete removal of the sulphur has been repeatedly tried and a number of patents have latterly been taken out for such processes, success has not yet been achieved in performing the desulphuration in a really rational manner.

By the reclaiming process of Dr. Wimmer a rubber is said to be obtained which is free from all odor and possesses the entire elasticity of the former article. Ground or finely cut old rubber reduced as finely as possible is heated with about the same weight of castor oil to a temperature of 180° C., to at most 210° C.,† until dissolved. After cooling, this solution is poured with constant stirring into double the volume of 90 per cent. spirit. The rubber dissolved in the oil will then separate in the form of a tough mass, while the castor oil remains dissolved in the alcohol. The liquid is separated from the rubber, and the latter is repeatedly washed with a small quantity of fresh spirit. As the rubber still contains plenty of spirit, it is washed with warm water to which some soda lye is added and finally with pure water.

Hudson Marks, of Akron, subjects rubbed up or reduced

* Translated for THE INDIA RUBBER WORLD, from *Nuestre Erfindungen und Erfahrungen*, Vienna. XXIX-6 (1902), pp. 243-245.

† = 356° F. and 410° F.

Caoutchouc scraps, with dilute alkali solution—for example, a 3 per cent. caustic lye solution—to the action of great heat, for instance, 173.5° C., for some time, say 20 hours, in a closed receptacle. The finely disintegrated (ground or rubbed up) rubber waste is placed in a suitable vessel with diluted alkali solution (3 per cent. caustic soda solution) in sufficient quantity to penetrate the rubber and cover it. The vessel is closed, heated to about 173.5° C. by means of steam and the temperature is maintained for 20 hours. The smaller the quantity of sulphur contained in the rubber, the less heat and the shorter a time of action of same is required. For a practical process aiming at the reclaiming of vulcanized rubber scraps of various origin such as occur in commerce, the temperature of 173.5° C. (equal to the temperature of steam at 8.8 atmospheres) has been found suitable for a duration of 20 hours. Devulcanization and at the same time destruction of the texture which contains the scraps is thereby accomplished. The product is washed out perfectly to remove the lye. Tolerably good results are obtained with rubber containing a slight percentage of sulphur, at a steam pressure of 6.3 atmospheres. Very good results were obtained with 12.3 atmospheres.

One of the processes mostly in use for the regeneration of old rubber consists in treating it, in the ground state, with soda lye, under pressure, then washing twice thoroughly, and drying in the vacuum. The object of the washing on the cylinders,

etc., is to eliminate the lye. The carefully dried waste is mixed with 5 to 10 per cent. benzol or mineral oil on cold rollers and then steamed under pressure for some hours at 4 atmospheres; the product obtained is worked out between cylinders and mingled with the various mixtures of rubber. The boiling of the ground waste with rosin oil has been abandoned entirely, because the product obtained was found to be smeary, irregular and partially permeated with hard pieces.

Floating scrap, and especially scrap from elastic threads, is finely ground and mixed with 20 per cent. benzol, pressed hydraulically in cylinder molds; these closed molds are vulcanized 6 hours in boiling sulphur at 145 to 150° C., whereupon the somewhat viscous product is rolled out into sheets.

* * *

THE foregoing article shows in a marked degree the status of the business of reclaiming rubber in Germany, and as viewed by a distinguished Teutonic expert. In many portions the statements will not coincide with the experience of the English and Americans. Scrap prices which vary from 11 to 65 cents a pound will be a stumbling block to all but the most credulous, but need not after all be taken as serious market quotations. The inference that old boots and shoes are of little value abroad is also a bit off the track. The article, however, is interesting and worth the space which it occupies in these pages.—THE EDITOR.

RUBBER PLANTING AND EXPLOITATION.

YIELD OF A "PARA RUBBER" TREE IN PENANG.

A RUBBER tree from Pará seed in the Waterfall botanic garden, Penang (Malay states), now 17 years old, has had seven tappings, beginning in June, 1897, the total yield from which, in dry rubber, is herewith stated in detail, as reported by Mr. C. Curtis, superintendent of the garden, to the Straits *Agricultural Bulletin*. The aggregate is 18 pounds 7¼ ounces; an average per tapping of 2 pounds 10.18 ounces, or an average per year of 3 pounds 1.21 ounces. The system of tapping is thus described: A small perpendicular channel is cut in the bark about a foot in length and ⅛ inch broad, but not deep enough to obtain much latex, its object being merely to conduct the latex to a tin receptacle fastened at its base. This channel is not subsequently enlarged or interfered with. Two or three incisions are then cut on either side, leading obliquely to this channel to supply this latex. From the

DATES.	Lbs. Oz.
June, 1897	1 0
Nov.-Dec., 1898	3 0
April-May, 1899	2 8
Nov.-Dec., 1899	3 4
Oct.-Nov., 1900	3 12
Aug.-Sept., 1901	2 2
Oct.-Nov., 1902	2 13.25
Total, 1897-1902	18 7.25

upper side of each of these a thin shaving of bark is removed every morning, or on alternate mornings, which causes a fresh flow of latex. In each of these seven tappings a thin shaving has been removed thirteen times, which, with the initial cutting, makes fourteen operations, the whole constituting what Mr. Curtis calls one tapping. Thus the number of times this tree has been operated upon is $7 \times 14 = 98$, and average amount of dry rubber from each operation about 3 ounces. The daily amount, however, varies very much, the yield from the first two or three operations each season being almost nil. No attempt was made, until the last tapping, to save such rubber as may have been removed with the shavings of bark referred to, and this, Mr. Curtis thinks, would be an important item in a large plantation. A plain carpenter's chisel is considered better

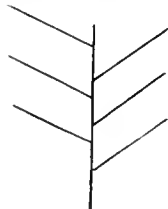
than a special tapping tool sent to Mr. Curtis, because a finer edge can be kept on it, and the sharper the implement the better the flow and the less the loss by coagulation in the cuts.

This tree resulted from seed planted in the Singapore botanic garden in 1885, and was one of a dozen transplanted in Penang early in 1886. It was selected for the series of tapping experiments on account of being the largest in the group. "It is not pretended that the result of tapping the tree is of great value as a guide to the results to be obtained from a large number, for we now know," says Superintendent Curtis, "that there is a great dissimilarity in the yield of trees of equal size growing side by side and under exactly similar conditions. The interest in this particular tree, then, is that it has been tapped six times . . . that it shows no sign of deterioration, that the incisions made are all healed up, and that the total yield of dry rubber during that period" is as stated. Two years ago this tree was 55 feet high and 66 inches in girth at three feet from the ground. At 3½ feet from the ground the tree branched into two stems, with a girth respectively of 44 inches and 34 inches, five feet above the ground.

AN OFFICIAL VIEW OF RUBBER CULTURE.

THE annual report of the United States secretary of agriculture for the year ended June 30, 1902, says:

"It is generally supposed that a continuously humid climate is necessary for rubber culture, but in southern Mexico it is obvious that an alternation of distinct wet and dry seasons is favorable to the production of rubber by *Castilloa*, which will permit a much wider use of this tree in our tropical islands than has appeared possible hitherto. The failure of some of the earlier experiments may be ascribed to planting in situations too uniformly moist. The tree will often grow luxuriantly where it will produce little or no rubber, as many planters have learned to their cost. Rubber is the most important vegetable raw material now imported for manufacture in the United States. The agricultural production of rubber is assured, and



PLAN OF INCISIONS.

several millions of capital from the United States have been invested already in Mexican rubber plantations. The extent, however, to which these and similar enterprises in other countries can be made profitable depends on the solution of many new agricultural problems."

FAILURE OF "CASTILLOA" IN KAMERUN.

THE annual report of the Moliwe Plantation Co., presented at the annual meeting at Hamburg on October 14, contains the following reference to the company's experience with rubber in the German colony of Kamerun:

"The culture of the *Castilloa* rubber tree is to be described a failure, because these trees, which otherwise thrive so excellently, have been destroyed entirely, with the exception of a few trees, by bore worms, and at the end of the year embraced in the report only 950 trees remained standing; the culture, for the time being, will not be extended. The *Kickxia* rubber tree, which is at home in Kamerun, seems to thrive especially well, an area of 13 hectares [= 33 acres] has been planted with 4720 trees; it is used also as shade for cacao, and planted along the banks of streams and ditches and by the side of roads. Experiments are also to be made with *Ficus elastica* and Gutta-percha plants originating from the south sea colonies, where they were planted by the botanist Schlechter in charge of the expedition inaugurated by the colonial agricultural committee."

The Moliwe company was formed in Hamburg, in 1899, with a capital of 1,100,000 marks, to plant cacao and rubber in the colony named above. At one time it was planned to cultivate *Castilloa* extensively, and one shipment of 400,000 seeds of this species was obtained from Costa Rica. A large number of these, however, were spoiled in shipment.

RUBBER PLANTATIONS IN COSTA RICA.

THE following list of plantations of rubber (*Castilloa elastica*) existing in the San Carlos valley of Costa Rica in April, 1902, has been supplied to the *Tropical Agriculturist* by Ed. Coles:

	ACRES.
Umfried & Schloch, at the head of Tabla grande; begun 4 years ago.....	98 840
Hoppenstadt & Gillett, in Banco de la China; planted 6 years.....	7.413
A. Long, below mouth of Arenal river; planted various times since 1897.....	91.427
Mercedes Quesada; planted 6 years.....	14.826
Kotelmann & Heynssohn; planted 6 years.....	14 826
Theodore F. Koschny; planted 1 and 2 years.....	64.246
Mr. Koschny and others, in Caño Negro; 1 year old.....	9 884
A. Long in Caño Negro; 1 year old.....	14 826
Carl Grutmacher, in Caño Negro; 3 years old.....	9 884
Total.....	326.172

[Costa Rican lands are measured in hectares, converting which into acres gives the somewhat unusual fractions appearing in the above table.]

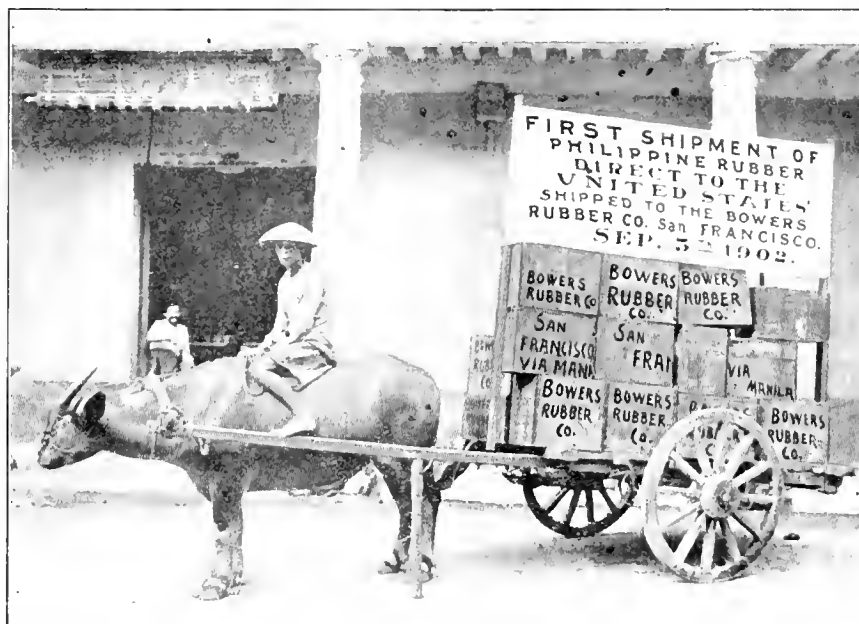
Besides the above, Max Bergmann is mentioned as having

several hundred trees planted in Caño Negro, 1 and 3 years old. Also, Mr. Koschny was preparing to plant 39½ acres more on his own estate, and in connection with other parties in Caño Negro was planting in the spring 247 acres, and making plans to plant 865 acres later. Mr. Long was also mentioned as planning an additional planting of 74 acres, and an American family named Hogan were preparing to plant largely at the mouth of the Tres Amigos river. The San Carlos river, by the way, discharges into the San Juan, which separates Costa Rica from Nicaragua, and forms part of the projected Nicaragua canal route. Mr. Coles suggests that in the event of the construction of this canal the San Carlos region would be settled rapidly, while the discarding of this route would lead some of those already on the ground to move away.

IMPORTATION OF RUBBER IN THE PHILIPPINES.

THE illustration on this page has been derived from a photograph taken in the town of Zamboanga, island of Mindanao, representing the first shipment of native rubber from that port to the United States. The rubber contained in the cases

shown is undoubtedly the product of the *Ficus elastica* and is very similar to Assam rubber. It has very likely been collected and shipped for years by Chinese traders, and its diversion to the United States shows a typical bit of American enterprise. It seems that several employes of the Bowers Rubber Co. enlisted to serve in the army in the Philippines and while there saw the rubber and communicated to the president of the Bowers Rubber Co. a report on the collection of



INDIA-RUBBER IN THE PHILIPPINES

the rubber and its sale. The enterprising president of the company immediately sent his own agent to the Philippines, got samples of the rubber, and had shipments started at once for San Francisco.

THE MEXICAN GOVERNMENT AND RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am informed by a man interested in rubber growing in Mexico that the Mexican government decided recently to go out of the rubber business—i. e., that it had decided to give up its experiment stations, or something to that effect; that it was satisfied that the climate or something else vital was not quite right. They could grow the trees, but when it came to the yield, the showing was not satisfactory. I wish to ask you for the facts in the case. I am very much interested in this business financially as well as otherwise.

F. W. B.

Chicago, Illinois, December 23, 1902.

WE have never heard before that the Mexican government had gone into the rubber business, or had established experiment stations in connection with rubber. Such planting of rubber as has been done in Mexico, has been done by foreigners, using their own capital, and while most of the trees

planted to date are too young to yield rubber, such trees as have become productive seem to have given such satisfactory results as to encourage more extensive planting.

RUBBER IN FORMOSA.

RUBBER trees are supposed to exist on the island of Formosa, which was acquired by Japan from China as a result of the war between those countries a few years ago. In fact, there is some definite evidence on this point. For example, the United States consul general at Calcutta, Mr. Samuel Merritt, reported in 1890 that Major J. A. Betts, "while an officer in the Chinese army, explored the large islands of Formosa and Hainan, and found the forests filled with untouched *Ficus elastica*." Mr. Shizuo Kondo, of Tokio, informs THE INDIA RUBBER WORLD that, in connection with the building up of a rubber industry in Japan, much interest is felt now in the possibility of obtaining rubber in Japanese territory. "The systematic study of the resources of Formosa is now being carried on by our government," says Mr. Kondo, "very much as the United States is doing in the Philippines, and we hope to find rubber there to an important extent."

RESULT OF TAPPING YOUNG TREES.

DR. WALTER L. HALL, of San Juan Evangelista, Vera Cruz, Mexico, writes to *Modern Mexico* that 400 rubber trees (*Castilloa elastica*) on his plantation $3\frac{1}{2}$ and $4\frac{1}{2}$ years old (as they came), tapped by a native with a *machete*, gave 44 pounds of dry rubber, or about $1\frac{3}{4}$ ounces per tree. Thirty trees $4\frac{1}{2}$ years old tapped in the same way gave 2 ounces per tree. Fifty trees $3\frac{1}{2}$ years old gave $1\frac{1}{8}$ ounces per tree. A wild tree 15 inches in diameter yielded $2\frac{1}{2}$ gallons of *latex*, which made 8 pounds 2 ounces of dry rubber without injury to the tree. Dr. Hall says that the quality of the rubber appears to be the same, whether the *latex* is coagulated with "amole" or by simply drying, but the former is more expeditious. He says that the best time for tapping is from November to February.

MEXICAN MUTUAL PLANTERS' CO.

[Plantation: La Junta, state of Vera Cruz. Offices: New York Life building, Chicago.]

No. 9 of *The La Junta Planter* (the company's bulletin) states that the whole of the issue of the bonds offered to the public—3700—has been sold, 30 per cent. of them having been taken by the shareholders. The bondholders' committee of investigation will leave Chicago for the plantation in February. Two-thirds of the area designed for rubber has been planted, now embracing over 1,000,000 trees. The company state: "We are often asked at what age we can safely tap rubber trees. We are of the opinion that size and maturity of the wood, not the age, will regulate the tapping period, and that while an occasional tree five years of age and a large number at eight years, grown in the sun, may be safely tapped, few that are planted in shade will be large enough to tap in fifteen years, some not for twenty-five years, and many will not attain sufficient growth in a generation."

EDUCATING MEXICAN INDIANS TO WORK.

MR. FRED L. TORRES, of the executive staff of the Consolidated Ubero Plantations Co., engaged in rubber culture on the isthmus of Tehuantepec, says that the most important inducement to labor which he has found for the native Indians—their main dependence for plantation work—is the company's store. When the Ubero companies began operations, the natives in that district still dressed in primitive style, and had no wants beyond their daily food. But the display in the store of gaily colored clothing, ornaments, and trinkets has developed among the natives a desire for those things, and now both men and women willingly work full time in order to gratify tastes to

which, a few years ago, they were strangers. The constant new developments on the isthmus, Mr. Torres says, will ere long call for more than the native supply of labor, when it is anticipated that Chinese can be imported to meet every want.

PRIVATE RUBBER PLANTING IN MEXICO.

THE newspaper *Modern Mexico* believes that "the best evidence that cultivating rubber will become a profitable business in Mexico is not the number of companies that have been formed in the United States to plant rubber, but the number of intelligent men in Mexico, who, after careful and personal investigation of the subject, have gone to planting rubber on their own account. These men who buy land and quietly set to work to cultivate the rubber tree are fully convinced that it will produce gum in quantities that will pay handsomely. They have no stock to sell, and they would deceive no one but themselves by putting their money into rubber. They do not expect to make a thousand dollars per acre from their investment, but they do expect it to yield handsome returns, or they would not be living in the tropics with all the attendant discomforts for one of a northern race."

THE CENTRAL CAUCHO CO. OF CUBA.

THIS company was incorporated on December 8, under Delaware laws, with \$100,000 capital, for the purpose of planting rubber in Cuba. The interests which have formed the company, including The George W. Ireland Land Co. of Cuba (Philadelphia), own 16,000 acres, to be devoted to the plantation. There are now growing in nurseries in Cuba a number of *Hevea* rubber plants from 12 to 18 months old from seed from trees brought from Brazil a number of years ago, and which have been tapped frequently, yielding rubber of such quality as to encourage the formation of the planting company here referred to. The officers are: George W. Ireland, No. 1011 Chestnut street, Philadelphia, president; J. D. Milligan, of Youngstown, Ohio, vice president; R. E. Hollingsworth, No. 22 Mercaderes street, Havana, secretary and treasurer. Mr. Ireland informs THE INDIA RUBBER WORLD: "Our company is made up largely of friends who intend to go carefully and prove conclusively as we go, and we ourselves are confident of our success."

PITTSBURGH-OBISPO PLANTATION CO.

[Plantation at Tuxtepec, state of Oaxaca, Mexico. Office: Times building, Pittsburgh, Pennsylvania.]

INCORPORATED December 12, under New Jersey laws, with \$500,000 capital, divided equally between 7 per cent. preferred and common shares, of \$100 each. Incorporators: Maxwell F. Riddle, Arthur C. Schiller, John A. Barnes. This company has acquired 1600 acres of land adjoining the plantation "San Silverio el Obispo," owned by the Obispo Rubber Plantation Co., and the name of the new tract will be "El Obispo." Like the former, the new plantation will be developed to a productive stage by the Republic Development Co. The new company has been formed on original lines, in that there will not be any sale of its securities on the installment plan, but its shares will be sold outright, as in the case of a manufacturing corporation. The president is James S. Beacon, late state treasurer of Pennsylvania, and the vice president Edward E. Robbins, a former congressman and now attorney for the Baltimore and Ohio railroad—both of Greensburg, Pennsylvania. The secretary and treasurer is G. Frank Kelly, treasurer of the Candace Coal and Coke Co., Scottdale, Pennsylvania. Some prominent Pennsylvanians other than those named are also directors, and the board includes Maxwell F. Riddle, who is connected with the other companies named in this paragraph. The agents for the sale of the company's stock are Mitchell, Schiller & Barnes, at the Pittsburgh address given above.

VARIABLE SPEED DEVICES FOR RUBBER MILLS.—II.

By J. O. De Wolf.

IN continuation of the article on this subject in the December issue of *THE INDIA RUBBER WORLD*, a brief description will be given of two other means of accomplishing the results described in that article.

In Figures 1 and 2, presented herewith, are shown two views of the "Reeves Variable Speed Transmission" made by the

H. P. to 150 H. P., and which give a variation in speed of from 10 to 1 on some of the smaller transmissions, to 2 to 1 on the heavier ones.

The several forms of speed changing devices that have thus far been referred to all depend on some well known mechanical principle for accomplishing their purpose. With the increased

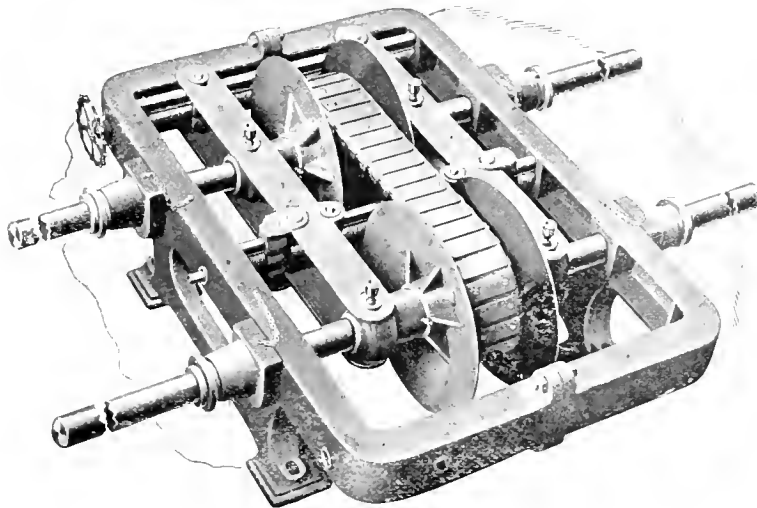


FIG. 1.—REEVES VARIABLE SPEED TRANSMISSION.

Reeves Pulley Co. (Columbus, Indiana). The conspicuous feature of this device is two sets of cone disks mounted on parallel shafts and so keyed that they revolve with the shafts and yet can be moved longitudinally along the shafts. These disks are attached to pivoted bars which are operated by a screw so that one pair of disks is moved together as the other set is moved apart. The combination of bars and pivots is such as to preserve a substantially uniform tension in the belt, which is of the utmost importance in the operation of the device.

By reference to the cuts it will be seen that the inner sides of the disks form a V-groove in which runs a specially constructed belt that has its bearing surfaces on the edges and drives by the contact of the edges with the cones. In operation one set of disks is the driver and the other the driven, the relative speeds being varied by increasing or decreasing the driving circumference of the disks by moving them apart or closing them together as occasion requires.

Figure 1 shows the belt in the same position on both disks so that the speeds of driving and driven shafts are the same. In Figure 2 the pivoted bars *DD* are in such position that the belt drives from the smallest circumference of the driving disks *CC* and runs on the driven disks at their largest circumference, thus reducing the speed of the driven shaft *B* to the minimum. Figure 2 shows a heavier form of transmission than shown in Figure 1, and also illustrates the power shifting device *EE* which is applied to the larger sizes, for turning the screws that controls the cones; on the smaller sizes this is done by hand.

This variable speed transmission is manufactured in different sizes which the manufacturers rate from $2\frac{1}{2}$

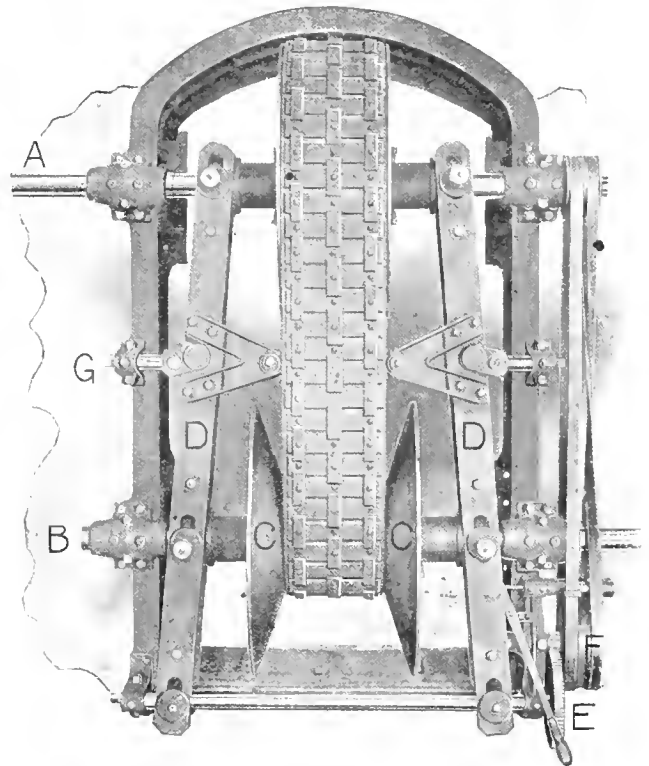


FIG. 2.—REEVES VARIABLE SPEED TRANSMISSION.

use of electricity means have been found for obtaining any desired variation in speed through the use of an electric motor. Such an arrangement for driving a calendar is shown in Figure

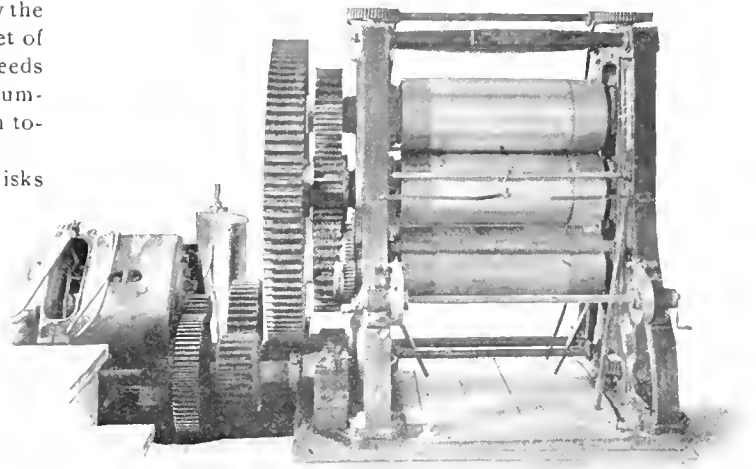


FIG. 3.—CALENDAR DRIVEN BY ELECTRIC MOTOR.

3. where a motor, made by the General Electric Co. (Schenectady, New York), of type GE-53, is connected by gearing to the calendar and the speed varied by a controller shown in the background. The operation of this calendar driven by an electric motor is the same as the operation of an electric car, and the calendar man can control the speed of his machine exactly the same and within the same limits as the motorman controls the car; in fact the controller shown within this machine is the familiar form of street car controller.

RUBBER NOTES FROM EUROPE.

HERR L. OTTO P. MEYER, on December 11, at Dresden, celebrated his eightieth birthday, his friends being able to congratulate him upon his remarkable health for a man of his age. Herr Meyer was a brother of H. C. Meyer, Jr., the founder of the hard rubber industry in Germany, and was concerned in an important way with the development of the industry at College Point, near New York, by Poppenhusen & Meyer, after which he went to Dresden in the capacity of United States consul and has since made his home there.

=On December 4 was celebrated the twenty fifth anniversary of the firm of Reinhardt Leupolt, Gummiwerk, of Dresden. Their business was established on a small scale by Herr Leupolt in 1877, trading in technical rubber goods. In 1883, the business having grown to require larger quarters, the present location was chosen, Wettinnerstasse, 26. In 1899 it was decided to begin the manufacture of goods and on January 1, 1900, their factory was opened at Chemnitz. At the beginning the factory made a specialty of rubber hat bags—forms for straw and felt hats—in which they speedily built up an important trade, including a good export to Austria, Italy, Russia, and elsewhere. Later was added the manufacture of rubber hose and wringer rolls, and finally a third department, devoted to the manufacture of surgical goods (druggists' sundries). Herr Leupolt, the founder of the business, died August 29, 1901.

=J. Schnurmann, dealer in waste India-rubber (London), advises THE INDIA RUBBER WORLD of the removal of his offices from 142, Wool Exchange, and his warehouses from Eagle Wharf, all to Downham Mills, 27-29, Downham road, London, N., where they will be united under one roof, and occupy about 25,000 square feet of space. The increased size of the new premises will enable Mr. Schnurman's trade to be enlarged, and more attention to be given to the American trade.

=The Hannoversche Gummiwaaren- und Balata-Treibriemen-Fabrik, Adolf Prestieu, has established a branch in Hamburg, at Mattenwiete, 5-7, in charge of Friedr. C. Held.

=The liquidation has been completed of the Hannoversche Caoutchouc-, Guttapercha-, und Telegraphen-Werke. Nothing was left for the shareholders. The three principal creditors expressed their willingness to assume the loss suffered by the other creditors.

=An acetylene gas plant has been installed in the factory of the Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken, at Gelnhausen.

LEYLAND AND BIRMINGHAM RUBBER CO., LIMITED.

At the annual meeting of shareholders at Leyland the chairman, in discussing the financial statement [summarized in a late INDIA RUBBER WORLD], said that it might be thought that the profits for the last business year would justify a larger dividend than $7\frac{1}{2}$ per cent. But the directors preferred to go on adding to their facilities, for the company had had to refuse orders on account of the premises not being as they should be; besides, it was desirable to have plenty of cash assets, so as to command a buying position in the market. During the year

their plant had been appraised by a firm of valuers at a higher figure than stood on the company's books, by several thousand pounds. The number of employes was 175 greater than at the same time last year. The prospects for trade were bright, owing to the ending of the war in South Africa and the opening up of new markets. The cycle trade was improving, and the company hoped to benefit from the early expiration of the Dunlop patents, when the tire trade would be open to the world.

THE SILVERTOWN COMPANY'S REPORT.

At the thirty-ninth annual meeting of the shareholders of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, in London, on December 16, the directors reported a net profit for the year ended September 30 of £57,554 3s. 4d., against £56,057 1s. 5d. for the preceding year. The usual dividend of 10 per cent. was paid for the year, in addition to 4 per cent. on the debentures. The company completed during the year the San Francisco-Sandwich Islands cable, which was despatched from London on September 20, and were employed on numerous smaller orders for cable work. The general business showed some falling off, which is stated to have been due to a lowering of selling prices, the quantity of goods being about the same for the two years. The amount carried over is £62,362, against £54,808 last year.

ENGLISH TIRE COMPANIES.

At the annual meeting of the Dunlop Pneumatic Tyre Co., Limited, on December 10, the directors presented a report showing a profit for the year ended September 30 of £186,589. They recommended a total dividend for the year on the preference shares of 10 per cent., amounting to £47,750, and on the ordinary shares of 5 per cent., amounting to £49,999. After paying interest on debentures and writing off £45,371 on patents, a balance of £177,922 remained to be carried over, against £178,580 brought forward on September 30, 1901. The total profits which accrued in the subsidiary companies to the end of the year amounted to £146,099, of which sum only £34,000 had been taken account of in the balance sheet, the remainder being left in those companies to provide them with ample working capital. The report states that the new patent processes adopted by the company have proved eminently successful, and marked an important advance in the tire manufacture.

At the eighth annual meeting of the Palmer Tyre Co., Limited, on December 1, a profit for the year was reported of £6,971 and a dividend was declared making a total for the year of 20 per cent., or £9,600. This was made possible by the very large reserve fund, which the board no longer saw a reason for maintaining. Trade prospects were reported good, but prices during the coming year will be slightly reduced. The board believe, however, that the sales will increase enough to bring in as large, if not a larger, net income than before.

At the annual meeting of the New Grappler Tyre Co., Limited, in Dublin, on November 20, it was resolved to supply the additional capital asked for by the directors by the shareholders subscribing £5,875 for the Balance of the debenture issue ordered last year. The company under its new management had worked without sufficient working capital, but during three years had paid in royalties on cycle tires enough to have yielded 10 per cent. each year on the company's ordinary shares. Although the Dunlop patent expires in 1904, bringing an end to the payment of royalties, the Grappler motor tire patent has about six years yet to run, and the company have had a good demand for motor tires, including that though an agency lately opened in France.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE idea current in many minds that we were in for a long era of low prices in raw rubber must be pretty well dispelled by this time, having regard to the upward movement of the last few weeks. The rise in Pará rubber is attributed by Liverpool brokers to the increased demand in the United States, in conjunction with the shortage due to the Acre troubles. But whatever the reason the situation remains, and manufacturers are not consoling themselves with the thought that the upward tendency is due to any sudden or temporary market disturbance. It is not at all certain that a continued drop in prices would have had an unequivocal welcoming, because it had begun to be recognized that the public might with some show of reason clamor for a reduction in the price of goods. As to how far such reductions have already been conceded it is difficult to speak with any degree of certainty. The Silvertown company in their annual report put down a reduction in profit to lower selling prices, rather than to reduced turn over. This large concern, it should be remembered, is, like the North British Rubber Co., outside the India-rubber Manufacturers Association, and so is at perfect liberty to follow out its own inclinations with regard to the price list. With regard to the high price ruling for Gutta-percha, this is hardly surprising, taken in conjunction with the new submarine cable schemes in hand and on paper. Certainly Gentsch's Gutta-percha substitute has arrived at an opportune time to have its lauded claims to recognition carefully investigated by experts. I am not in a position to speak at first hand concerning the reported discovery of Gutta-percha by Colonel Sparkes in the Bahr-el-Ghazal, but I cannot help feeling extremely sceptical as to the product being Gutta-percha at all. This of course does not detract from the importance of Colonel Sparkes's discoveries in other directions, concerning which I hope to be shortly in a position to speak at greater length.

ALTHOUGH dealers and agents in these goods can be said to have done better during last year than have their brethren devoted solely to the original macintosh, yet they are now complaining of the war of competition. At first these goods were made only of good quality material, and sold at corresponding prices; now, however, they are being retailed as low as 8 shillings 6 pence each, and as an agent informs me difficult to sell at that. The business, he said, is not what it was, and in his opinion it portended a return of the macintosh to public favor, a consummation which would be entirely to his liking. Certainly the proofing trade has passed through a period of depression and anxiety of late which has had no parallel for many years and the turn of the tide is eagerly awaited.

TWO contributions have recently been made to the theoretical side of our trade interests, though neither of them call for more than bare reference here, owing to their non-technical bearing. Professor C. Harries, of Berlin, has contributed to the German Chemical Society a further paper on the chemistry of Pará rubber, the action of nitrous acid being specially studied. The other paper is by Sir William Ramsay, entitled "Experiments in the chemical behavior of Gutta-percha." This paper was read before the London Section of the Society of Chemical Industry, though it is of the sort which is usually presented to the

Chemical Society. Professor Ramsay is of course one of our foremost chemists, and what he has to say must naturally attract attention, though his connection with the defunct Gutta-percha Corporation was not altogether a happy one. He says that it is now time both for scientific and commercial reasons that bodies belonging to the class of Gutta-percha and India-rubber should be brought under the domain of structural chemistry, though he acknowledges that the subject is a very difficult one. It does not seem advisable to occupy space by attempting a summary of the paper, and I shall leave the subject by remarking that the short discussion was notable from the fact that Mr. John Spiller, who has since 1865 been known in connection with Spiller's resin, took part in it, and that Dr. C. O. Weber was absent.

WITHOUT attempting in any way to give a complete report of the numerous exhibits at the 1902 show held at the Agricultural Hall, London, in November, I shall, as on previous occasions, refer, as far as space will allow, to the exhibits of our rubber manufacturers. The stress of competition is doubtless responsible for the evolution of the illustrated price list; with the majority of the tire companies this now takes the form of a booklet tastefully got up and containing, besides some general notes on the nature and manufacture of the tires, some extraneous information of utility to riders. From an artistic point of view, as well as from the encyclopedic nature of their contents, the booklets issued this year must, I feel sure, recoup the efforts put forth in their construction, though the cyclist who proposes to take more than one or two in his pocket will be adding seriously to his dead weight. About the Bartlett-Clincher tire of the North British Rubber Co., Limited, there is really nothing new to say; this is still made in the three grades—A-won, "B" and "C," the last being made of red rubber in order that it may not be confused with the others. To judge by what one reads in the lists of other firms, the statement of the North British company that as far as observation goes their A tire is the only one that can correctly be described as being made entirely of Pará rubber, is open to challenge, but there is of course a good deal of merit in the qualifying clause "as far as observation goes." The Palmer Tyre Co., of Birmingham, had a good exhibit of their well known tire, which is made for them at the Silvertown works, under license of the North British Rubber Co. Special qualities are claimed for the fabric employed, this being woven in a manner which no other firm has been able to imitate. The road maps issued in the booklet of this firm will no doubt prove of great utility to riders. A novelty of this season is the motor cycle tire, for which a specially strong make of the Palmer fabric is employed. At the stand of the "Camel" tire, the progress made since Messrs. Reddaway, of Pendleton, took up the manufacture was demonstrated. The "Camel" tire is made in two distinct types, "wired" and "wireless," each being sold in three qualities: the Special made of Bolivian Pará; the First grade made of the highest quality pure Pará. The rubber in the third grade, or "Camel" tire pure and simple, is stated to be of excellent quality. It is noticeable that Messrs. Reddaway announce that they will defend any actions brought against dealers by firms who allege infringement. The Clipper Tyre Co., of Coventry, exhibit referred especially to the motor car and motor cycle tires, they being the salesmen in England of

RAW
RUBBER
PRICES.STANLEY
CYCLE
SHOW.RAINFOOT
GARMENTS.THEORETICAL
CHEMISTRY.

the Macaclin tires and the "Continental" tires, manufactured by license of the Dunlop company. Their booklet contains a good deal of information useful to motorists and including the law as to the use of motor cars on the highway—a subject on which a good deal has been heard lately. The Scottish Tyre, Limited, of Glasgow, who work under license from the Dunlop company, showed their Scottish "*de-Luxe*" and "Victor" tires guaranteed for thirteen months. From private information vouchsafed to me by riders these tires seem to quite bear out the claims made for them. The "Collier Twin" tire has been referred to recently in these pages and I need not say more than that they had a prominent exhibit which attracted a good deal of attention. In the "Black" tire, made by the Black Pneumatic Tyre Co., Limited, Glasgow, an arrangement of sectional bands, eyelet holes, and studs is adopted instead of the usual wire or thickened edge. The statement in their circular that Moseley's rubber and fabric, of which the tires are made, is recognized to be the finest and most suitable, amounts to an *ipse dixit* which might conceivably be challenged. The "Radax" tire, the peculiarity of which lies in self attachment under inflation due to the curvilinear nature of the fabric, occupied a prominent position, and mention should not be omitted of the exhibit of the well known motor tires of the New Grappler Pneumatic Tyre Co., Limited, of Dublin. Besides the North British Rubber Co., the other *bona fide* rubber manufacturers who had exhibits were the St. Helens Cable Co.; the Avon Rubber Co., with the "Avon" single tube motor tire; Midland Rubber Co., and W. & A. Bates, of Leicester. The Continent was represented by the Continental Caoutchouc und Guttapercha-Compagnie, of Hanover, whose stand was in point of size and attractiveness worthy of the firm. The descriptive catalogue given away to visitors contained an interesting series of views of the different departments of the works, and it will no doubt prove of considerable interest, seeing the increasing interest which the cycling and motoring public take in the subject of rubber. The United States, it should be mentioned, was represented by the Goodyear Tire and Rubber Co., with their motor tire.

It would seem that I ought to modify in one respect some remarks I made last month regarding the manufacture of dry core telephone cables. It is incorrect to say that owing to climatic troubles the manufacture has practically died out, these troubles it appears having been quite overcome in the large works in Lancashire and on the Thames, where such cables are now being made on a large and increasing scale. — Mr. T. C. Leer, who has long been connected with the London house of Charles Macintosh & Co. Limited, has I understand been appointed the manager in place of Mr. T. M. Bleackley deceased. — Mr. Charles Coops, late managing director of the Eccles Rubber and Cycle Co., Limited, has finally severed his connection with the company and will probably make his home in South Africa. — It is not always easy to get at the truth of changes or reported changes and I was somewhat previous with my late remarks concerning the Capon Heaton Co., of Stirchley, Birmingham. They have not, at least up to date, been bought up by the Dunlop company, but are going on independently and doing pretty well from all accounts. — Mr. P. A. Birley, of Messrs. Charles Macintosh & Co., has returned from his visit to the United States, and bears eloquent testimony to the hospitality extended to him and to the pleasure and instruction he derived from inspecting the works to which access was granted him.

— Mr. John Zwinger, with whom originated the Dermatine manufacture, recently died in London. He was of Austrian nationality, a term which does not convey any very definite

racial characteristics, but I am unable to particularize his origin more clearly. He had long ceased I may say to have anything to do with The Dermatine Co., Limited, of London. — Mr. James Burleridge, of Messrs. William Warne & Co., of Tottenham, has returned from the Continent quite recovered from his recent indisposition. The old works of Messrs. Warne & Co. will still continue to be carried on at Tottenham, in conjunction with the larger works recently opened at Barking. — The works of the Hyde Imperial Rubber Co. were at the sale by auction on November 25, bought in at £15,550 by a syndicate promoted by Mr. Dawes, the late manager, and he will be the manager of the new company formed to operate the works.

WITH regard to a recent announcement in this correspondence, it should be said that this firm have given up the idea of removing entirely to Birmingham, and the works of the Standard Rubber Co., of Ross street, West Gorton, Manchester, will be carried on by them under the title of George Littlewood & Sons, Limited, with Mr. Paterson as manager. A complete up-to-date plant for the manufacture of cycle strips is now being put down.

UNDER this somewhat strange title a works has been established at Monton Green, near Manchester, for the manufacture of artificial leather. I am not in the secret of the manufacture, and it is somewhat too early to say anything very definite about the prospects thereof. Its interest to the rubber trade lies in the fact that hospital sheeting is to be largely made, and it is expected that this, on account of price and longevity, will compete severely with the ordinary rubber article. An oily smell about these goods seems to me rather a drawback, but this may possibly prove to be but a temporary inconvenience. The works are controlled by the Winterbottom Book Cloth Co., a large Manchester concern, and are in effect a branch of a works already established for some time in Germany. So far it must be confessed what has been done in the way of manufacturing artificial leather in this country has not been a success; it may be that the problem has now been solved.

UNPROFITABLE CABLING ON THE AMAZON.

A GAIN an unfavorable report is made by the Amazon Telegraph Co., Limited, on the operation of the submarine cable between Pará and Manáos. At the shareholders' meeting in London on December 2, the directors reported a gross revenue for the year amounting to £47,113 15s. 5d., and total expenses of £47,422 4s. 10d. One interruption of nine weeks caused an estimated loss of revenue of over £3000. Charging for interest and sinking fund there is a debit balance for the year of £16,005 14s. 1d., making the total debit balance to date £85,178 15s. 5d. The new repair steamer, the *Viking II*, now on the Amazon, is giving good results. The operation of the new land lines during the year was much more expensive than was anticipated. The company have been seriously inconvenienced by their inability to collect the subsidy due under the concession from the Manáos government, now amounting to £11,899 3s. 4d. The company's £10 shares have been quoted recently at £3 and £4, and the £100 5 per cent. debentures at £70 and £80.

THE Russian-American India-Rubber Co. (St. Petersburg) are making rubber carriage tires which, in a recent public competition ordered by the St. Petersburg city council, made a good record for not splashing mud.

AN ATTEMPT TO "MAKE RUBBER" THAT FAILED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the summer of 1902 I was offered an opportunity to invest in the stock of a company which had been organized to manufacture a process rubber or substitute from a formula said to have been originated by one W. K. Freeman. The offer came to me from gentlemen connected with a company which had acquired an option on the Freeman process. These gentlemen were of very high standing and of unquestioned integrity. Freeman had given them many samples of his compound, and even conducted parts of his operation in their presence and had given them parts of his formula. Tests of the samples which he submitted to them had been made by practical rubber men, who reported in substance that the material was rubber of a high grade, one expert stating that it was equal to medium Pará.

After examining the matter so far as documents were concerned and consulting with clients, I notified the officers of the company that if Mr. Freeman would perform his experiments, and make in the presence of our representative a compound equal in all respects to the sample which he had delivered to us, my clients would take on the terms proposed all of the remaining stock of the company. I was present at an interview at which this offer was submitted to Mr. Freeman. He replied that he was ready to give the test, but not in the presence of a chemist, lest advantage might be taken of his process, which was necessarily secret. This was assented to, and I was myself designated as the person in whose presence the compound was to be manufactured.

I was given a list of various materials which had entered into the composition of the last batch of the compound which had been manufactured, and which had been submitted to the tests above mentioned. I was informed by Mr. Freeman that 21 pounds of materials had been used in the manufacture of the batch of compound, which when finished had weighed exactly 10 pounds. I was given the names and amounts of articles which aggregated 20 pounds out of the 21 of gross material. I was told by Mr. Freeman that he reserved the right to mix with the 20 pounds of material which I purchased one pound or less of materials which he was to purchase, the composition of which was to be secret—this for the necessary protection of his formula.

Having purchased the materials which I was to supply, arrangements were made for a test, which was to be conducted at Mr. Freeman's establishment at No. 403 East Twenty-third street, New York. There then ensued a considerable period of delays and excuses for the failure to manufacture the compound. I was on hand at the somewhat early hours designated by Mr. Freeman, but his excuses were such as failure of the chemist to send him the pound of material which he was to supply, sickness resulting from former experiments, death of a relative, etc.

Ultimately, however, the test was begun. Mr. Freeman used the 20 pounds of material which I purchased, and had on hand several little bottles containing something less than a pound of material which he had himself purchased. Some of the ingredients—consisting, I believe, of cellulose, water, and caustic soda—were put into a metal vessel and kept at a temperature of about 200° F., over a slow fire from somewhere about 8 o'clock in the morning until about 6 or 7 in the evening. Mr. Freeman occasionally during this process examined the fibers through a small magnifying glass, and talked somewhat mysti-

cally about the slowness with which the material approached the critical point when the cotton fibers which it contained should be ready to change to rubber. Some time about 6 or 7 o'clock, he stated that the material could not possibly be ready for the test prior to 11 o'clock that night, and suggested that I should go and get something to eat. I objected that, although I was hungry, I feared the pot might come to the boiling point while I was away. He protested in the presence of three gentlemen, all of high standing here, that it was impossible that the critical time should be reached short of five or six hours. These assurances were accompanied by further magnifying glass examinations. I then asked what would happen in case he should be mistaken, and it should get ripe while I was absent. He answered that all he had to do was to take it from the fire and pour some bisulphide of carbon in the pot and that the mixture would keep any length of time. I thereupon left for my dinner, leaving two gentlemen (one a prominent lawyer and the other a very prominent banker) who were to watch operations until my return.

I announced that I would be gone just an hour. As a matter of fact I returned in thirty-five minutes, and then learned that almost immediately after I had left Mr. Freeman stated that he could no longer control the "brew," and that it was going to "ripen" during my absence. Protest was entered, and it was pointed out, I am informed, that he had promised me that the addition of some bisulphide of carbon would save the situation. He had, however, changed his mind about this, and he accordingly added some bisulphide of carbon and transferred the mixture to an earthenware crock. At this time there was a little difficulty, I am told, arising from the fact that the compound took fire, or at least escaping gas was burning freely. The flames were suppressed with a wet towel, and the pot was stirred a bit, and then Mr. Freeman carried the vessel and contents into a little closet which he designated as a "dark room" and which had at one side of it a sliding window closed with orange colored glass. He had been in the dark room only a short time when I returned. I at once went in the dark room with him, and protested against his using the closet when the entire floor of the factory was so dark that it might have been used for a photographic developing room. I could see no purpose in the dark room, except that it confined the gases which were escaping, and which were clearly some sort of nitrous fumes of an exceedingly irritating character. Mr. Freeman insisted that it was necessary to remain in the room, and he added from time to time to his mixture some of the chemicals which I had purchased, and also some nitric acid which he had purchased, and which apparently caused the fumes which made the room almost uninhabitable. After perhaps five minutes, Mr. Freeman was overcome by the fumes and had to be taken from the room and a doctor summoned. Owing to the fact that I had been in the room a shorter time than he, and to the further fact that I had stood on a bench and escaped the fumes in the lower part of the room, I was less affected by the gases and able to remain in the room some time after Mr. Freeman left it. I found a window in the room communicating with another room which had been locked, although I had requested that it be left open.

When Mr. Freeman was sufficiently recovered, he went back into the room and examined the materials, and while there dropped on the floor of the dark room the key which he had

used when entering. I endeavored to find the key, but was not successful, and Mr. Freeman said that he had a duplicate key in his pocket. As the fumes were disagreeable, I again left the dark room with Mr. Freeman. As he went out, he endeavored to close the door. I refused to permit it to be closed until the duplicate key was produced. Mr. Freeman insisted on closing the door (which locked with a spring lock), saying that to leave it open would spoil the brew. I insisted that the entire building was darkened and that no light could possibly get in, and stationed an attendant to hold the door ajar, but as soon as I had gone Mr. Freeman closed the door with a jerk, at the same time locking it with the spring lock. As this left the dark room in communication with the window above mentioned, the whole experiment seemed to me to be quite useless, but as there was still an opportunity to burst open the door, I asked Mr. Freeman in the presence of four other persons whether he claimed that the experiment had been a success. He replied that it had been a complete failure, as he had been overcome by the gases before he had put in all of his chemicals; that he would make no claim that the experiment was successful, but would give me a further experiment as soon as he recovered.

The next day he sent word to me that the experiment had been completely successful, and that the batch of rubber which had been made was the finest he had ever produced. I declined to accept this as a satisfactory test, and although I have many times requested a further experiment I have never been able to get one. The gentlemen who had invited me to invest in the company have since notified me that Mr. Freeman has failed to perform the experiment to their satisfaction, and that they have withdrawn from the enterprise.

Mr. Freeman gave me two samples of a product he claimed to have manufactured. I had them analyzed, and one sample, which he said was the result of a successful experiment, is reported to me to have been nothing but rubber which had been dissolved in some volatile hydrocarbon and later recovered upon the evaporation of the solvent. The second sample, which he said was the result of an unsuccessful experiment, is reported by the chemist to have been probably made from an old rubber shoe. The fibers of some sort of canvas were plainly visible in parts of this last specimen when he gave it to me.

In the course of my interviews with Mr. Freeman, I pointed out to him that he claimed to have produced from the 21 pounds of raw material 10 pounds of rubber, which on analysis was found to contain 87 per cent. of carbon. I told him that he therefore had at the conclusion of his experiment 8.7 pounds of carbon; that in the list of materials which he had given me, and which embraced 20 pounds of the 21 pounds he had used there were in all only about 4 pounds of carbon, and that even if we assumed the other pound to be carbon, still the result was that starting with about 5 pounds of carbon, he had finally wound up with more than eight pounds. I asked him where he got the excess, and he replied that he got it from the water. I asked him whether it came from the hydrogen or the oxygen, but he replied that I did not understand chemistry, and that he could not discuss the matter with me.

W. H. STAYTON.*

New York, December 19, 1902.

MR. FREEMAN AND HIS PROCESS.

A REPRESENTATIVE of THE INDIA RUBBER WORLD on December 26 called at No. 403 East Twenty-third street, New York—a large building, across the front of which is displayed prominently the name of Walter K. Freeman, M. E., with other

* Mr. Stayton is a member of the important legal firm of Stayton & Campbell, No. 30 Broad street, New York. He was educated at the United States Naval Academy and was in active service in the navy for several years before being called to the bar. He is a man of high personal character and social position.—THE EDITOR.

signs indicating that inventions are developed within and drawings and patterns supplied. Going up two flights of stairs he entered what was said to be Mr. Freeman's office, and was informed by a middle aged gentleman who seemed to belong there that Mr. Freeman had been detained that morning at Rutherford, New Jersey, at "the factory," which he explained was being erected to develop a new rubber product. He said that work on the factory had been interfered with for the reason that parties in New York who were supplying the capital had been "caught in Wall street." When asked about Mr. Freeman and his rubber substitute, the middle aged gentleman said that it had been undergoing tests for two years past, and that the United States Rubber Co., the Goodyear company, the Diamond company, and other concerns had used it in manufacturing shoes, tires, etc., and that the manager of the United States Rubber Co. would be prepared to give a good account of the new material. He said that a gentleman from Germany, representing an association of bankers, had lately visited New York and obtained samples of the product with a view to organizing a company for its manufacture in Germany. Mr. Freeman, he said, had left a college at Racine, Wisconsin, to go to South America for Mr. Charles R. Flint, and while in the tropics had become interested in India-rubber.

Later in the day the representative of THE INDIA RUBBER WORLD talked with Mr. Freeman in the same office, without seeing the middle aged gentleman above mentioned, and was shown over the establishment, occupying a floor space apparently about 50 × 100 feet, and filled with machines, models, etc. Mr. Freeman, when asked about his rubber substitute, said that while making experiments in lighting, as an electrical engineer, the action of certain chemicals had led him to researches on another line, which had resulted in the making of a synthetic product which he thought might be of interest to the rubber trade. He did not know whether it had any value, but had made a few samples of not more than 6 or 8 pounds each, which he had sent to a few rubber manufacturers, who had expressed the opinion that "there might be something in it," while others had said that it had no value. He had no money to spare in developing the process, but if anyone desired to invest money for the purpose of further tests on a large scale, he was willing to allow the use of his secret formula and to carry on the experimenting, although his health had been so affected by the poisonous fumes incident to the process that his physician had advised him to let the whole thing alone. The base of his product was cellulose, from which the product was "built up" by a process which he had not revealed to anyone. The product he thought might prove of value for compounding with rubber, and, in certain cheap goods, take the place of rubber. He had also prepared samples in which Pará rubber was incorporated—as low as 15 per cent. and as high as 87 per cent. No one had been asked for any capital in connection with this product, though parties had come to him and offered to raise capital, and afterwards failed to do so. When asked about the factory at Rutherford, New Jersey, mentioned by the middle aged gentleman, Mr. Freeman said:

"Oh, that old man talks too much. If I put a shovel into the ground he thinks I am building a big factory."

Mr. Freeman asserted in answer to a question that he had been in South America very little, and that this had no connection with his interest in rubber. When told of the statements contained in the communication which appears above, Mr. Freeman categorically denied every one of them, and in regard to each detail made a diametrically opposite statement, insisting particularly that the test referred to was made by the other parties present and not by himself, and that he did not know

that it was made for Mr. Stayton or that Mr. Stayton had appeared as the representative of anybody but himself. Moreover, that test was a failure.

Mr. Freeman, in talking with THE INDIA RUBBER WORLD representative, denied any knowledge of the American Crude Rubber Co., incorporated August 22, 1902, under New Jersey laws, with an authorized capital of \$2,000,000, for "the manufacture of and sale of rubber and rubber products and the cleansing of such products; the manufacture, purchase, and sale of chemicals, and chemical products;" etc. The incorporation papers were signed by Owen E. Abraham, John W. McConnochie, and Kenneth K. McLaren. The first two are connected with the office in New York of a gentleman widely known, who invested a considerable sum with the idea that it was to be devoted to the erection of a factory at Rutherford, New Jersey, for the manufacture of a substance which would take the place of rubber, and be saleable to manufacturers at 70 or 80 cents a pound, and the American Crude Rubber Co. was incorporated at his instance to control the business. Losing confidence in the rubber product, he stopped investing his money in the business. A block of stock was allotted to Mr. Stayton, whose letter appears above, and he was called upon for an assessment, which he declined to pay without seeing a test of the process, and the result of such test is recorded in his letter. THE INDIA RUBBER WORLD, after several attempts, has failed to get any information regarding the affairs of the American Crude Rubber Co. from persons authorized to speak for it. An interesting feature in its incorporation papers is the enumeration, among its "objects" of the following:

To borrow or raise money without limit as to amount by the issue of or upon the warrants, bonds, debentures and other negotiable or transferable instruments, or otherwise.

It would appear that up to date this is the chief object of the corporation to which effect has been given.

Although Mr. Freeman asserted to the representative of THE INDIA RUBBER WORLD that he lacked facilities for the proper development of his process, THE INDIA RUBBER WORLD is assured that a large rubber manufacturing company near New York has more than once offered to give Freeman the exclusive use of its laboratory and apparatus for experimental purposes, and has also offered to supply all of the money suggested by Freeman in negotiating with certain other parties, namely, \$250,000, on the terms mentioned by him in a contract with those parties, if he would make a test of his process satisfactory to any representative of the manufacturing company

THE RUBBER WAR ON THE ACRE.

COMMENTING upon recent hostilities in the Acre district, *The Brazilian Review* (Rio de Janeiro) says "all the elements are ready for a struggle as barbarous and savage as any that have disgraced the history of civilization." The *Review* does not doubt that Brazil is sincerely desirous of maintaining peace with Bolivia, but there may be "circumstances that even the Bolivian government could not resist that may in the long run drive this country into war with Bolivia, just as Great Britain was drawn into the struggle with the South African republics against her will."

The Acre was, according to our contemporary, discovered and developed exclusively by Brazilian enterprise and Brazilian capital. The district is as rich in rubber as the Transvaal is in gold, and is practically unworkable except by Brazilians. The only industry in the district is rubber gathering, which is carried on by some 18,000 persons, nearly all Brazilians. With regard to the feeling in Brazil, the *Review* says:

"The relation between the Acre pioneers and their friends and relatives at Pará and Manáos who have assisted and financed them from the first are naturally close and as intimate as they could possibly be. These settlers and backers believe that it would be to their interest for the Acre to be under the Brazilian rather than the Bolivian flag. Whether they are right or wrong we will not discuss, but when, in a district where life is almost impossible for outsiders, nine-tenths of the local population declare for any particular policy and are inclined to back it up by action, resistance in the long run must cave in at the Acre as it has done in South Africa."

The London *Morning Post*, which has given no small attention to the whole subject, advises the Acre *cessionnaires* to restrict their claims and pretensions to purely commercial interests and to abandon those of a semi-political nature. It considers that on the action of the Foreign offices of the United States and Great Britain, and the encouragement given by the press and public of these countries, probably in reality depend the chances of war or peace.

The commission despatched by the Bolivian syndicate to inaugurate preliminary work on their concession in the Acre district had not, at last accounts, proceeded beyond Manáos, on account of the unsettled condition of affairs on the Acre river. The president of the commission is William Lee, an American. The other members are James Pitt, second director, Dr. David Edet, the physician of the party—both Englishmen—and Señor La Fontaine, of Argentina, the technical manager.

On August 6 Colonel Placido de Castro, commander in chief of the forces in revolution on the Acre—settlers from Brazil—deposed the Bolivian authorities at Xapury, and on the following day proclaimed the independence of the territory and declared war on Bolivia. Leaving a garrison at Xapury, the revolutionists descended the Acre, touching at several points at which Bolivian troops were stationed, all of whom were overcome, besides which large quantities of provisions and cattle were secured. The Bolivian congress has authorized the emission of 1,000,000 bolivianos [= \$193,000] in paper money to defray the cost of sending 1000 men to quiet the disturbance on the Acre, and also authorized the banks to make extraordinary issues of bills. It was reported that President Pando might head the expedition, which would require perhaps four months, traveling overland, to reach the Acre.

CABLES AND WIRELESS TELEGRAPHY.

THE German postoffice department has made a liberal grant of funds for an investigation of the Gutta-percha resources of New Guinea, in view of the recent discovery of Gutta-percha species there by Herr Rudolf Schlechter. Evidently the secretary of the German imperial posts—who has the supervision of various submarine cable lines—does not regard wireless telegraphy as sufficiently developed yet to render it unnecessary for him longer to be concerned about supplies of insulating materials.—The Canadian government cable steamer *Tyrian* lately completed the laying of 114 miles of submarine cable in the gulf of St. Lawrence. At the same time the announcement was made that all the government signal stations on the gulf would soon be equipped with wireless telegraph apparatus, the experimental stations first erected having worked successfully.

During December Signor Marconi was creditably reported to have sent wireless messages across the Atlantic, but the opinion remains that the new invention can never supersede submarine cabling.

SOLE AND BLANK CUTTING MACHINES.

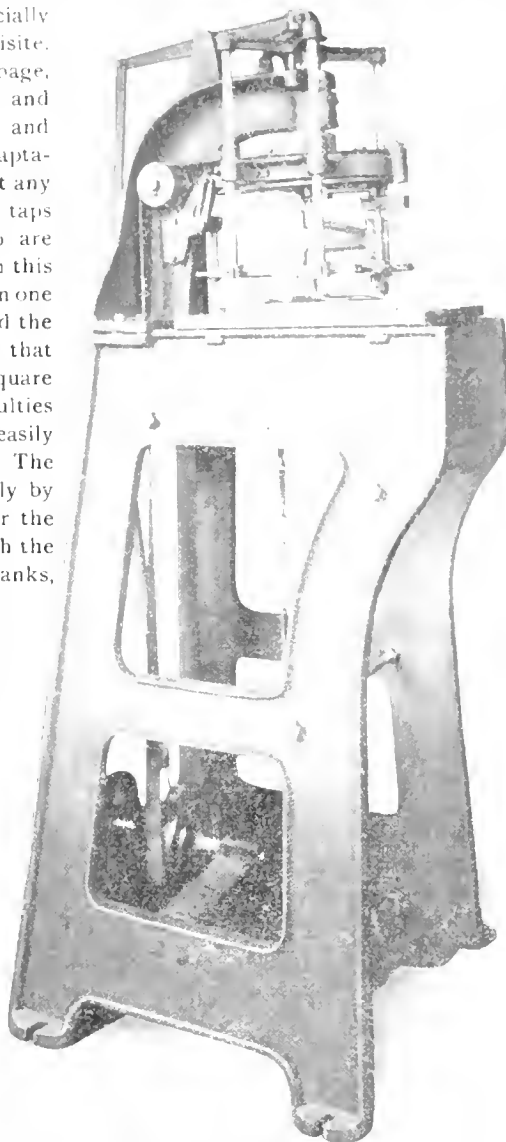
THE Wellman sole cutting machine is adapted to cut all manner of irregular forms, especially those where a bevelled edge is a requisite. As shown in an illustration on this page, it is arranged for the cutting of boot and shoe soles, taps, balls, syringe bulbs, and other blanks of that nature. By adaptation the machine may be made to cut any shape or any size. The soles and the taps shown in illustrations herewith also are samples of the range of work done on this machine. All of the soles were cut on one machine, adapted to sole cutting, and the taps on another machine adapted to that work. Round ends, angular points, square ends, as will be seen, offer no difficulties and are, as a matter of fact, more easily cut by the machine than by hand. The output of the machine is limited only by the ability of the operator to care for the material cut; in many instances, with the help of an assistant to care for the blanks, as many as 10,000 pieces have been cut in less than nine hours, the pieces being made up of no less than thirty different forms or sizes. An average of over 3,500,000 pieces are cut each month on these machines in the United States alone, in addition to what is being done by them in Canada, England, Scotland, Germany, Austria, Sweden, and Russia. The machine is simple in construction, but, to use the words of a well known superintendent, almost human in its action. The knife carrying device consists really of a hand, wrist, elbow and shoulder; the machine has a "head" also, which, together with the leader, guides the hand just as the brain guides the hand of the hand cutter. The machine is well built and all its parts are interchangeable.

There is no doubt that this machine could be used to great advantage where many pieces of one kind are to be cut, and will find a place in many factories in the druggists' sundries and mechanical lines. It is interesting to note that the same brilliant inventor who perfected this machine is now devoting himself to the production of machines and devices in rubber factories

that will do away with hand labor. In other words, he places himself and his finely equipped machine shops at the service of the rubber trade the world over. Not as an advertisement, but as a piece of valuable information to the progressive, we are glad to add here that the gentleman referred to is Mr. A. M. Stickney, of the Wellman Sole Cutting Machine Co., Medford, Massachusetts.

To those who are not familiar with the Wellman sole cutting machine the illustration that accompanies this article may not be altogether clear. Briefly, the machine works in this way: The small metal table at the upper part of the frame is that on which the rubber sheet rests as it is drawn through from right to left. Just above this sheet is a form which, at rest, gives perhaps half an inch clearance above the sheet of rubber. This form is something like the presser foot to a sewing machine. To it is attached a metal pattern of the shape to be cut. When the operator puts his foot on the treadle the form is instantly pressed down upon the sheet of rubber and a knife point held either at an angle or vertically, as the case may require, runs swiftly around the form, cutting out the shape desired. By a variety of simple adjustments one form may be made to cut a number of sizes, and all with perfect exactness.

THE word "mackintosh" with a *k* is usually considered an Americanism, but it is by no means certain that this spelling originated in the States. In the official reports of the juries on awards at the Great London Exhibition of 1851 may be found more than one mention of "mackintoshes," relating to the display made by the original manufacturers of these articles, at Manchester. The publications in connection with this first great world's fair, no doubt, helped to fix the spelling of very many trade terms then new.



WELLMAN SOLE CUTTING MACHINE.



CUT ON SAME SOLE CUTTING MACHINE



CUT ON SAME TAP CUTTING MACHINE.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The advancing price of crude rubber is being watched with keen interest by rubber manufacturers in general, but especially so by manufacturers of tires. Solid tire prices dropped so low the past season that the condition of the business was regarded as critical; and as two-thirds of the solid tires manufactured in America are the product of Akron factories, this city was the center of the storm coming from carriage manufacturers demanding cheaper tires. The result in some instances was tires of poorer quality, but even this could not entirely solve the problem, for tires of the same quality as before were expected and could not be delivered at the lower selling price. On the other hand, to keep up the standard of quality meant a curtailment of business, temporarily, at least. And now the advance in crude rubber values aggravates the situation. Some large contracts were made when the raw material was cheaper than now, but on all new orders and contracts there is a general stiffening of prices, from sheer necessity. Crude rubber is not alone in the upward scale. Other material, fuel, freight rates, and labor are costing more.

"In every contract for supplies which I have made for the coming year I have been obliged to grant an advance in price. To meet the condition prices of manufactured tires and rubber goods in general should be increased from 10 to 20 per cent.," said an official of a leading rubber company. Other manufacturers concur in the proposition that prices must be materially stiffened to meet prevailing conditions. It is the unanimous belief that 1903 is to be a record breaker in rubber manufacturing.

* * *

THE plant of the People's Hard Rubber Co. remains closed and Joseph J. Freeman, of New York, is in charge of the property. No authorized statement save that the control of the company has passed to new owners by the sale of a majority, if not all, the stock, has as yet been made. Unofficially it is said on excellent authority that a New York broker who is now represented here by Mr. Freeman, was the purchaser. Whether he acted for the American Hard Rubber Co. is not stated, although it is generally believed that he did. An inventory of the People's Hard Rubber Co. property was taken just before the sale, late in November, by R. H. Wright, secretary of the company, and George Pellingier, of the Vulcanized Rubber Co. It was agreed that as a third appraiser, Superintendent A. H. Marks, of the Diamond Rubber Co., should be called if Messrs. Wright and Pellingier failed on any point to agree, which, however they did not.

The People's Hard Rubber Co. were incorporated in the spring of 1901 with a capitalization of \$200,000. Their factory in South Akron was completed and operations begun a year later. It is believed here that the factory will again be operated, though it is considered likely that the old Goodrich plant of the American Hard Rubber Co. will be closed and that by lease or purchase the buildings will go to The B. F. Goodrich Co., whose premises they adjoin. The People's plant is well equipped with modern machinery, and employed 250 people.

* * *

THE Combination Tire and Rubber Co. are making plans for a reorganization of their company under the same name. Originally incorporated with a capitalization of \$100,000, under New York laws, it is now proposed to obtain, instead, an Ohio charter, and fix the capital stock at \$30,000. The *personnel* of the company will remain the same, with the exception of the

probable retirement of Thomas Clark, of New York, the president. The Akron members of the company say they will be marketing tires for the spring trade.

The Colonial Tire and Rubber Co. have closed a contract with the Oesterreichische Aktiengesellschaft für Gummi-Industrie, by which the latter will manufacture the Swinehart solid rubber tire at their factory near Vienna, on royalty, having the exclusive license for Austria-Hungary. Negotiations are pending with a rubber manufacturing concern in Germany for a similar license for that country, and Russia will next be visited by the Colonial company's representative.

Tire and other rubber manufacturers here are not pleased to note the feeling of resentment against the so-called "American invasion" which is being agitated in Germany. In the discussion of new duty schedules in the German capital it is proposed to make an advance of about 40 per cent. *ad valorem* in the tariff on imported rubber goods.

The organization of the Superior Rubber and Manufacturing Co. of Cuyahoga Falls, was completed at a meeting in that village on December 10. The officers are: W. S. Bailey, of Cleveland, president; W. J. Hart, of Cleveland, vice president; E. M. Young, of Cuyahoga Falls, treasurer; L. H. Whitcomb, of Cuyahoga Falls, secretary. The company will begin with the manufacture of dipped goods and expect to be ready for business before February. Mr. Whitcomb will be in general charge and a practical rubber man will be engaged as superintendent.

Among local manufacturers it is quite definitely understood that Lewis D. Parker, president of the Hartford Rubber Works Co., is to succeed Charles H. Wheeler, resigned, as president of the India Rubber Co. W. L. Wild, secretary of the company, it is understood, is to be the local manager. Their annual meeting will be held in January.

An explosion of chemicals in the dipping department of The B. F. Goodrich Co. at 5.15 o'clock Friday evening, December 12, caused a fire which, though it at no time seriously threatened the main buildings of the plant, destroyed the interior of a small one story brick building in which it started, and kept the fire crew of the company and a crew of city firemen busy for two hours. The chemicals and benzine used in the dipping department made the blaze a difficult one against which to contend, and as the water flowed out of the building burning oils floated upon its surface. Walter Reese, an employé of the Goodrich company, was overcome by the fumes inside the building and was taken out unconscious. He was not seriously injured. The clothing of a lad among the spectators caught fire from the floating chemicals and he was slightly burned. The fire was extinguished without loss to the plant except in the one department.

Betzler & Wilson have had a large holiday trade on fountain pens. The demand for rubber toys also appears to be growing at each recurring Christmas season. The B. F. Goodrich Co. would have been able to sell a great many more of their "Brownies" than they cared to make.

Akron automobile tire manufacturers plan to be generously represented at the automobile show in Cleveland the week of February 22. That city is so near Akron that local rubber people will have something akin to a home interest in the exhibition. Cleveland is rated as the principal automobile manufacturing city of America. Akron will also be well represented at Madison Square Garden in January, and at the Chicago automobile show on February 14-21.

The outlook for bicycle tires grows more and more hopeful. No great revival of the business is looked for, but inquiries and orders are both more numerous than at this time last year.

"Last season it was all price and quality did not count a great deal," said one manufacturer. "This season quality is coming to its own again and the general average will be higher than at any time in the present century."

Taplin, Rice & Co. are receiving many orders for molds for rubber work. They have rarely been so busy in this department.

The Diamond Rubber Co. have established a branch at Cleveland, Ohio, in charge of F. E. Tayloran.

The Goodyear Tire and Rubber Co. are manufacturing for a fire engine of the Paris, France, fire department, a set of endless solid tires, 48×6 inches.

The Faultless Rubber Co. are meeting with success with a new parlor ball, which is dipped instead of molded, by which means seams are avoided. That they will not deflate is another claim made for the balls.

The annual art souvenir of The B. F. Goodrich Co. is, as usual, a masterpiece in its way—the portrait of a young woman, by J. Alfred Mohlte, reproduced in colors on heavy paper. The Goodrich pictures are eagerly watched for each year by Akron people as well as by the trade.

Writing to Akron friends, Mr. H. C. Corson, former vice president of The B. F. Goodrich Co., says that he will remain at his summer home in Nova Scotia, communing with nature, enjoying the winds and waves and birds, until February, when he and Mrs. Corson will go to Europe.

The Faultless Rubber Co. closed their factory for inventory December 31, to resume January 5.

The Firestone Tire and Rubber Co. have begun manufacturing their own tires, in an addition to their plant recently completed. The engines were started in the new department on December 22.

Mr. John W. Lyman, manager of the Philadelphia branch of The B. F. Goodrich Co., and Miss Nellie Josephine Dague, daughter of Mr. and Mrs. J. W. Dague, of Akron, were married at the bride's home on the evening of December 10. Their home will be at No. 4311 Fansom street, Philadelphia. Mrs. Lyman has been one of the most prominent members of Akron's younger society set.

Employees of the Alden Rubber Co. have organized a band. The B. F. Goodrich and the Diamond company employees have had each such an organization for some time—the former for many years.

The B. F. Goodrich Co. observed their usual custom of giving every employe a turkey or its equivalent in cash at Christmas. Turkeys were in demand and 1800 were distributed.

GROWTH OF THE AKRON FACTORIES.

THE past year has been one of notable progress in the rubber trade of Akron. Several new companies have been formed and new factories built, besides which nearly all the older concerns have been expanding. There is likely to be less done in the way of new buildings in the coming year, but it is considered probable that the amount of business done will be even greater than during the past twelve months—undoubtedly the most productive in the history of the trade here.

The B. F. Goodrich Co. have just completed a new brick building 360×60 feet, five stories above the basement. The shipping rooms will be located in this building, which affords improved facilities, as it stands beside a belt line which reaches all the railroads touching Akron. The Goodrich company have increased their engine capacity by 1500 H. P. and their boiler plant by 2000 H. P. The additions include two steam turbines, which are said to be the first to have been placed in a rubber factory. Another extension made by the Goodrich company has been the purchase of five acres of land, a mile from

the main premises, on which two small buildings for experimental purposes have been erected.

The growth of the Diamond Rubber Co. during the year has been marked by the completion of an additional brick building upon its premises, 330×80 feet, five stories and basement. The tire departments were removed into this building last February, making room in the older structures for an extension of the manufacture of mechanical goods. An additional engine of 350 H. P., making a total of 35 000 H. P., was installed.

The Goodyear Tire and Rubber Co. are completing and expect to occupy early in January an additional building 300×60 feet, of three stories. It is to be used for a general extension of the company's business. An addition of similar size and a pressed brick office building, two stories and basement, were completed by this company in September, 1901.

The Faultless Rubber Co. completed in October an addition 35×110 feet, four stories high, and another of two stories, 32×50 feet. Still another addition of four stories, 32×54 feet will be erected before spring, when the company will put in their own mills and calendars.

Although not an Akron factory, the Camp Rubber Co. are all Akron men. Their factory is at Ashland, Ohio, but their offices are in Akron. In addition to the building now occupied, a four story structure 50×150 feet, they will erect at an early date another building 50×50 feet, of the same height. They will then place in operation their own mills and calendars.

The Miller Rubber Manufacturing Co. erected during the year an addition partly two and partly three stories, 100×124 feet, for a general extension of their present lines.

The Pure Gum Specialty Co., at Barberton, erected two additions—one of brick 40×80 feet, and two stories high, and a two story frame structure 30×50 feet—and are now at work on a third addition, 40×80 feet, of brick construction, and two stories high. The concern was started by H. F. Mitzel, formerly employed by The B. F. Goodrich Co., three years ago, and incorporated December 10, 1900. Last August the capital stock was increased from \$20,000 to \$75,000.

The Alden Rubber Co., at Barberton, erected an addition of brick 60×100 feet and three stories high, putting in machinery for a general extension of their present lines and the manufacture of tiling on a large scale.

The Buckeye Rubber Co., built during the year a one-story brick addition to their warehouse, 100×60 feet.

The Stein Double Cushion Tire Co., though incorporated in 1901, did not complete their factory and begin work until June, 1902. Their main building is 220×106 feet, two stories high.

The Lyon Rubber Co., with a capital stock of \$10,000, is another of the children of 1902.

In the same list are the Summit Rubber Co., capitalized at \$25,000 whose factory, a two-story brick building 40×80 , is at Barberton.

The Colonial Tire and Rubber Co., organized to handle the Swinehart cross wire vehicle tire in Europe, are another 1902 company, but without any buildings in Akron.

The Combination Tire and Rubber Co., organized to make and sell a new vehicle tire, described in THE INDIA RUBBER WORLD for December, and the Superior Rubber Manufacturing Co., of Cuyahoga Falls, mention of both of which companies appears in this issue, were also in the 1902 group of new concerns.

The Peoples' Hard Rubber Co. completed their plant and began operation during the past year, which puts them also in this list.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED NOVEMBER 4, 1902.

- N**O. 712,507. Process of making dress shields or other waterproof articles. Theron Davis, New York city.
 712,610. Golf ball. Anson R. Spear, St. Paul, Minnesota.
 712,611. Golf ball. *Same*.
 712,634. Exercising apparatus. Richard Aronstein, Goldfield, Colorado.
 712,641. Horseshoe pad. Henry Biles, Ealing Dean, England, assignor to James Henry Osborne, London.
 712,816. Rubber heel for boots and shoes. George W. Lewton, Des Moines, Iowa.
 712,827. Exercising apparatus. George S. Maxwell, Jersey City, and George White, Jr., Madison, New Jersey.
 713,006. Pneumatic tire repairing tool. Winfield M. Kimberlin, Akron, Ohio, assignor of one-half to Edward C. Elppert, Akron.
 713,017. Syringe. Walter H. Pumphrey, New York city.

Trade Marks.

- 39,171. Certain named goods and articles made from India rubber and its compounds with their accessories. The Hartford Rubber Works Co., Hartford, Connecticut.
 39,212. Rubber tires for vehicles. International Automobile and Vehicle Tire Co., New York city.

ISSUED NOVEMBER 11, 1902.

- 713,123. Electric conduit. Amanda M. Lougee, Boston, Massachusetts, assignor to Clifton Manufacturing Co., Boston.
 713,122. Method of making electric conduits. *Same*.
 713,226. Vehicle wheel. George S. Lee, Hawthorne, New Jersey.
 713,234. Stopper for hot water bags. Edward E. Menges, New Haven, Connecticut, assignor to the Seamless Rubber Co.
 713,351. Pneumatic tire. Charles H. Shepard, North Plainfield, New Jersey.

Trade Marks.

- 39,227. Antiseptic waterproof sheetings, diapers, and waterproof undergarments. Arthur L. Sweetser, Boston, Massachusetts.
 39,228. Certain named rubber goods. The B. F. Goodrich Co., Akron, Ohio.
 39,243. Waterproofing compound. Toch Brothers, New York city.

ISSUED NOVEMBER 18, 1902.

- 713,656. Bathing cap. Frederick G. Littell, Brooklyn, New York.
 713,708. Stopper. William G. Spire, Sheridan township, Iowa.
 713,716. Cushioned horseshoe. William Thorby, Buffalo, New York, assignor of one half to George Goetz, Buffalo.
 713,736. Process of manufacturing rubber. Albert C. Blossier, Paris, France.
 713,769. Golf ball. Eleazer Kempshall, Boston, Massachusetts.
 713,770. Playing ball. *Same*.
 713,771. Process of making golf balls. *Same*.
 713,772. Playing ball. *Same*.
 713,855. Pneumatic tire. George H. Clark, Boston, Massachusetts, assignor to the Clark Cycle Tire Co.
 713,882. Elastic horseshoe. Joseph Hirsch, Kansas City, Missouri.
 713,900. Supporting bandage. Lee R. Miller and Emanuel T. Richter, Akron, Ohio.
 713,971. Cushion heel plate. Herman F. Dernel, Athens, New York.

ISSUED NOVEMBER 25, 1902.

- 714,164. Pneumatic tire. Wilbraham Edmund, Ealing, England, assignor to himself, and Alister Macnab, London, England.
 714,271. Vehicle wheel. John M. Alderfer, Sharon Center, Ohio.
 714,333. Vehicle tire and rim. Franklin G. Saylor, Franklin, assignor of one-half to George H. Morrill, Jr., Norwood, Massachusetts.
 714,380. Horseshoe. Alonzo F. Kerns, Chicago, Illinois.
 714,528. Means for tightening wires in elastic tires. John E. Sprague, Portage township, Ohio.
 714,544. Display box. Herman Wertz, Newark, New Jersey, assignor to Hardman Rubber Co.
 714,628. Hose rack. Charles Wright, Everson, Pennsylvania, assignor of one half to James J. O'Shea, Everson.
 714,649. Ore conveying surface for electrical separators. Henry M. Sutton, Walter L. Steele, and Edwin G. Steele, Dallas, Texas.

Trade Marks.

- 39,361. Elastic exercising devices. The Paraco Rubber Co., Cleveland, Ohio.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

[* Denotes Applications from the United States.]

APPLICATIONS—1902.

- 20,615. George Spurgeon, 9, Bulwer road, Leytonstone, Essex. Pneumatic tire. Sept. 22.
 20,666. Alexander Thomas Stevenson, 18, Buckingham street, Strand, London. Dress shield. Sept. 22.
 *20,749. Charles Edward Thomas, Fife House, Kingston-on-Thames. Pneumatic vehicle tire. (Date of application in United States Sept. 23, 1901.) Sept. 23.
 20,827. George Henry Hastings, 43, Gibson square, London. Pneumatic tire for cycles and vehicles. Sept. 24.
 20,834. Richard Green, 128, Colmore row, Birmingham. Pneumatic tire. Sept. 24.
 20,883. Arthur Keats, Brocton, near Stafford. Tire for bicycle and similar wheels. Sept. 25.
 *20,910. William Prampolini, 53, Chancery lane, London. Substitute for India-rubber and method of preparing the same. (Date of application in the United States, Feb. 6, 1902.) Sept. 25.
 20,962. William Smith, 141, Leytonstone road, Stratford, London. Pneumatic tire. Sept. 26.
 21,100. Ernest Arthur Hilder, 169, Brecknock road, Kentish Town, London. "The Unpuncturable" pneumatic tire. Sept. 27.
 *21,109. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing ball. Sept. 27.
 21,129. Patrick Millar Matthew and Colin Ross Crombie, Glasgow. Golf ball. Sept. 29.
 21,244. Harry Panzetta, 167, Inderwick road, Hornsey, London. Appliance for straining and coupling wires for securing rubber tires to wheels. Sept. 30.
 21,328. James Healey, Hellsby, near Warrington. Machine for insulating wires. Oct. 1.
 21,335. William Thomas Percy Taylor, 77, Colmore row, Birmingham. Pneumatic tire. Oct. 1.
 21,355. David Basch, 45, Southampton buildings, Chancery lane, London. Dress shield. Oct. 1.
 21,356. David Basch. *Same*. Oct. 1.
 21,371. James Hill Hammond, 322, High Holborn, London. Pneumatic tire. Oct. 1.
 21,377. Elwin Midgley, 173, Fleet street, London. Pneumatic tire. Oct. 1.
 21,380. Edwin Midgley, 173, Fleet street, London. Pneumatic tire cover. Oct. 1.
 21,407. Edward Henry Seddon, Manchester. Pneumatic tire. Oct. 2.
 21,410. Richard Frederick Gordon, 9, Tempest Hey, Liverpool. Tire for vehicles. Oct. 2.
 21,408. Frank Fayers Kerr, 17a, South Castle street, Liverpool. Pneumatic tire. Oct. 3.
 21,575. Reginald Williams, 111, Hatton garden, London. Pneumatic tire. Oct. 3.
 21,745. Harold Sandwith, 18, Southampton buildings, Chancery lane, London. Elastic tire for vehicle wheels. Oct. 6.
 21,947. Thomas McClelland, Jr., and William Campbell, Glasgow. Golf ball. Oct. 9.
 21,957. Medwin Caspar Clutterbuck, Brighton. Pneumatic tire. Oct. 9.
 22,033. Thomas Crompton Redfern, Manchester. Detachable rubber heel for boots and shoes. Oct. 10.
 22,169. Edward Daniel Wood, 43, Lugard road, Peckham, London. Improvement on chrome tanned leather for use in pneumatic tires and inner bands, for the prevention of punctures. Oct. 11.
 22,172. Charles James Grist, 55, Chancery lane, London. Golf ball. Oct. 11.
 22,310. William Waters, Manchester. Rubber pad for horseshoes. Oct. 14.
 22,368. Charles Thomas Kingzett, 24, Southampton buildings, Chancery lane, London. Improvement in rubbered balls for golf and other games. Oct. 14.
 22,555. Isaac Shinwell McDougall, 18, Southampton buildings, Chancery lane, London. Electric insulating material. Oct. 16.

- 22,556. Isaac Shinwell McDougall, 18, Southampton buildings, Chancery lane, London. Electric insulating fabrics. Oct. 16.
- 22,581. Thomas Bowman, Cockan, Rowrah, Cockermouth. Punctureless pneumatic tire. Oct. 16.
- 22,618. Edward Bell Kaper, York. Improved method of impressing designs on India-rubber. Oct. 17.
- 22,662. Henry Jelley and James Jelley, Birmingham. Improvements in pneumatic tire covers and the manufacture thereof. Oct. 18.
- 22,728. James Ashton, 9, Regent street, London. Tires for vehicles. Oct. 18.
- 22,848. Charles Edward Bradbury, Manchester. Tire for bicycles and motor cars. Oct. 21.
- 22,862. Anthony George Lyster, Liverpool. Golf ball. Oct. 21.
- 22,878. David John Van Praag, 3, Hurdwick place, London. Tire for bicycles and vehicles. Oct. 21.
- 22,889. Allan Dale, University Mansions, Putney, London. Patch for cycle and motor car tires. Oct. 21.
- 22,908. Henry Birkbeck, Southampton buildings, Chancery lane, London. Pneumatic tires. [Frank Cory Yeo, Germany.] Oct. 21.
- 22,973. Franklin Forbes Boyd, South Farnborough, Hants. Cork and rubber tire. Oct. 21.
- 23,052. Joseph Hubner and Karl Danne, 18, Buckingham street, Strand, London. Tubes for pneumatic tires. Oct. 22.
- 23,078. William Wallace, Glasgow. Ball for golf and other games. Oct. 23.
- 23,131. Robert Lamont and Charles Edward Weatherhead, 52, Chancery lane, London. Pneumatic hat block. Oct. 23.
- 23,238. Frederick Charles Lupton, 1 & 4, Mitre Court chambers, Fleet street, London. Puncture repairing device for pneumatic tires. Oct. 24.
- 23,243. Herbert Sefton Jones, of W. P. Thompson & Co., 322, High Holborn, London. Insulating material, and process for manufacturing same. Oct. 24.

PATENTS GRANTED.—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 11,578. Pneumatic tire. Karmel, L., Nottingham. June 6, 1901.
- 11,689. Teeth stopping. Bruhn, C. N. N., Düsseldorf, Germany. June 7, 1901.
- 11,871. Shaving brushes. Giles, C. T., London. June 11, 1901.
- 11,887. Golf ball. Crowley, J. S., London. June 11, 1901.
- 11,906. Pneumatic tire. Walken, G., trading as Adams & Co., London. June 11, 1901.
- *11,924. Solid tire. Lahe, H. H., London [Allen, L. E., and Poyser, W. J., Canton, Ohio, United States.] June 11, 1901.
- 11,966. Pneumatic tire. Black, A., Glasgow. June 12, 1901.
- 12,094. Electric cable. Tremain, F., Middlesex. June 13, 1901.
- 12,124. Pneumatic tire. Hifford, A., Leicester. June 14, 1901.
- 12,211. Pneumatic wheel. Rasmussen, H. P., and Hagerty, W., Southland, New Zealand. June 14, 1901.
- 12,446. Boot dryer. Burchardt, P., Kramfors, Sweden. June 18, 1901.
- *12,626. Tile. Sierer, J. K., New York, United States. June 20, 1901.
- 12,823. Pneumatic tire. Edmunds, W., London. June 24, 1901.
- 12,997. Syringe. Ross, J. H. Birmingham. June 26, 1901.
- 13,046. Waterproof fabric. Haddan, H. J., London. [Société Veuve de Francisco Saus E'Hijos, Barcelona, Spain.] June 26, 1901.
- *13,113. Pneumatic tire. Tillinghast, P. W., and Vigneron, A. T., Providence, Rhode Island, United States. June 27, 1901.
- 13,122. Waterproof coat. Mundin, W. J., London. [Ström, G., and Ström, A., Paris, France.] June 27, 1901.
- 13,127. Solid tire. Williams, W. F., 4, Denman street, London. June 27, 1901.
- 13,204. Gutta-percha, obtaining of by the use of solvents. Mitchell, G., 39, Victoria street, Westminster, London. June 28, 1901.
- 13,374. Bed pan. Houghton, J., Liverpool. July 1, 1901.
- 13,575. Teat mold. Armstrong, M. D., Essex. July 3, 1901.
- *13,642. Solid tire. Carslaw, J. W. D., Chicago, Illinois, United States. July 4, 1901.
- 13,677. Pneumatic tire. Dessan, M. M., Merton, Surrey, and Redaway, F., Manchester. July 5, 1901.
- 13,709. Hose. Le Poidevin, F., Castel, Guernsey. July 5, 1901.
- 13,734. Solid tire. Marks, G. C., 18, Southampton buildings, Chan-

cery lane, London. [Consolidated Rubber Tire Co., New York, United States.] July 5, 1901.

- 13,767. Pneumatic tire. Schaefer, O., West Norwood, Surrey. July 6, 1901.
- 13,843. Pneumatic tire. Mitchell, J., trading as Canvas Manufacturing Co., Manchester. July 6, 1901.
- 13,858. Method of securing tires. Wingham, W., 94, Wellesley road, Gunnersbury, London. July 8, 1901.
- 13,870. Bathing cap. Schwalenberg, R., Mannheim, Baden, Germany. July 8, 1901.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1902.

- 137,766. Bandages for healing purposes composed of rubber tubes. Heinrich Tauss, Vienna, Austria. Oct. 29.
- 138,039. Process for making leather soles and heel taps with a film of rubber on either side. Louis Eckhardt, Bad Homburg. Nov. 12.
- 138,180. Pressing roll of hard rubber with a covering of soft rubber for squeezing in the manufacture of paper, colors, and so forth. Gummiwerk Windt, Offenbach o/Main. Nov. 26.
- 138,232. Pneumatic tire with a protecting shoe of metal segments. Bernard Hippolyte Chameroy, Le Besinet, France. Nov. 26.
- PATENTS WITH MODELS FILED.
- 185,461. Rubber band with clamps on both ends for use as suspenders for cyclists. Paul Griebert, Berlin. Oct. 29.
- 185,586. Rear part of suspenders, consisting of side strips of leather or other suitable material, moving through cross cuts and made elastic by an interwoven rubber band. Hans A. Frank, Berlin. Oct. 29.
- 185,758. Rubber shoe for pneumatic tires with interwoven rubber protective plates. August Kurz, Munich-Riesendorf. Oct. 29.
- 184,883. Slips (for children) with press button closure and rubber insert in neckband. Herman Daniel, Swinemunde. Oct. 15.
- 186,608. Textiles provided with rubber backing, whereby ornamental figures or embossings may be made permanent. Bartels, Dierichs & Co., Barmen. Nov. 12.
- 186,302. Rubber suction piece with celluloid bell, which, by means of a stationary plug, is fastened to the suction handle. Michael Hahn, Munich. Nov. 12.
- 186,424. Umbrella holder consisting of a rubber band upon which is sewn a metal button, and a metal plate with a corresponding button hole. Mrs. F. Fehser, Berlin. Nov. 12.
- 186,313. A trough arranged for the artificial rearing of sucking pigs, provided with a number of rubber tubes with nipples on their ends, having automatic closing valves adapted to be regulated from the trough. Hermann Lawrenz, Berlin. Nov. 12.
- 186,505. Horse's bit, consisting of steel chain and rubber hose with interior spiral protection. Heinrich Sudhaus' Sons, Iserlohn. Nov. 12.
- 187,089. Corset bodice, with closed back and elastic sides having shoulder straps. Mrs. Hermine Kaiser, Baden, near Vienna. Nov. 20.
- 186,755. Dress shield with tubular insert for ventilation. B. Röber, Dresden. Nov. 20.
- 186,802. Boys' suits provided with elastic insertions of rubber at such places as the necessary stretching in the wearing demand. Berliner Knaben Garderoben Fabrik Betriebswerkstätte. J. Russ, Berlin. Nov. 20.
- 186,806. Dress-supporter, in which the clamps, closed by a spring, are covered with rubber shields. Röderstein and Walter, Barmen. Nov. 20.
- 186,804. Air pillow, available also as traveling cap, of which the head and side pieces may be inflated independently. Max Weinberg, Fulda. Nov. 20.
- 186,822. Snake fashioned of rubber hose with pearls, cording twisted lace and tinsel. M. Emil Schiefer, Annaberg. Nov. 20.
- 187,005. Protecting shoe for rubber tires with ribs running cross and lengthwise. The Dunlop Pneumatic Tyre Co., Limited, London, England. Nov. 20.
- 187,013. Fork shaped rubber holders, independently attachable to a carrier for supporting pencils to be in an upright position. August Lipnicki, Liesing near Vienna. Nov. 20.
- 186,741. Holder for shoe maker's wax, made of soft rubber. David Gellenbeck, Düsseldorf. Nov. 20.
- 187,223. Dress-pants combined with rubber cords passing through rings sewed on inside seam, lift pants by movement of leg. Bruno Krüger, Berlin. Nov. 26.

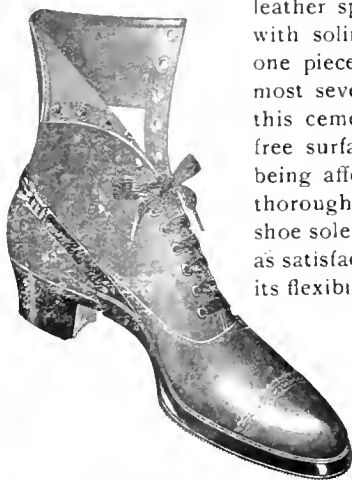
NEW GOODS AND SPECIALTIES IN RUBBER.

APSLEY ADJUSTABLE INVISIBLE RUBBERS.

THERE are many persons who do not wish to wear ordinary rubber shoes for the reason that they heat and draw the feet. At the same time they are averse to wet feet. Many such have worn heavy soles, so-called waterproof leather, etc. What they have needed, however, is



exactly what is shown in the accompanying illustration. That is, something that protects the sole from the wet, that is so shaped in the shank as to exclude water, snow, or mud, and that does not cover the shoe upper. Rubbers of this kind may be extra tight around the sole and yet be comfortable, for the very good reason that any extra pressure there affects only the solid leather and in no way compresses or covers the foot. This type of shoe is adjustable by the use of a buckle and is made only in full sizes. By the use of the adjustable buckle and the different widths it is possible to fit almost any leather shoe now on the market. [Apsley Rubber Co., Hudson, Massachusetts]



A MASK FOR VARNISHING.

ON account of the fumes arising from work in varnishing, such a mask as is illustrated on this page often proves desirable, and it is mentioned here for the reason that its use is rendered possible only through the employment of rubber tubing. A very wide use of varnishing masks will be found in connection with breweries, for the reason that the insides of beer casks are always varnished, in which work it is necessary for the workman to bend over the barrel, where the fumes are concentrated and protection is especially desirable. This particular mask has been introduced into most



of the large breweries in the United States and Canada, all of which manufacture their own casks. The manufacturer is now also introducing it to oil works and manufacturing establishments where such a device can prove useful. A considerable amount of tubing is required on the whole, in making these articles, on account of the length needed for connecting the mask with the fresh air supply. This article weighs $4\frac{1}{2}$ ounces and retails at \$10, including the goggles. [E. P. Gallaher, No. 3 Winfield avenue, Jersey City, New Jersey.]

THE "UNIVERSAL" CEMENT.

A CEMENT which appears from the description to be in a class by itself, and which should find a very ready market, particularly among rubber manufacturers and users, is called the "Universal" cement. In the first place, it is a sticker that not

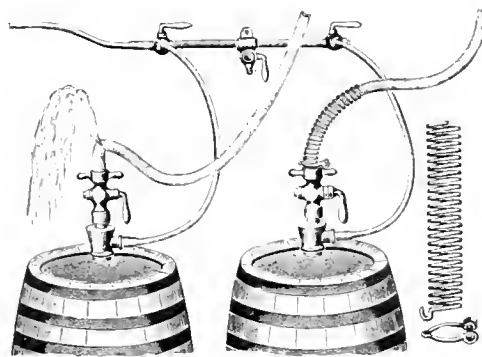
only is thoroughly waterproof, but absorbs no water. It has already been applied to rubber, leather, canvas, and cotton belting, wood, and other materials, and not only holds perfectly but is continuously flexible. Hot water or steam do not affect it in the least, and it has been applied as a splice for laundry paper, and saw mill belting—work in which the ordinary leather splice is quickly affected. When used in connection with soling and patching leather shoes it makes practically a one piece sole which gives no sign of weakening under the most severe wear. An unusual point of value with regard to this cement is that it is oil proof. It has been applied to oil free surfaces that are later submerged in oil, the cement not being affected. An unusual test along these lines which was thoroughly successful was its application to leather belts and shoe soles which had been first soaked in oil, where it worked as satisfactorily as if the surface had been dry. With regard to its flexibility, it readily lends itself to the working surface with-

out the slightest tendency to cracking and separation. In strength tests it is said to be the best yet. A 5 inch four ply rubber belt lap, 6 inches long, tested in the machine for measuring tensile strength at the Case School of Applied Science of Cleveland, stood up to 4250 pounds, at which strain the belt broke, without apparent weakening of the splice.

The splice was made, by the way, like the ordinary leather belt lap, by skiving for about 5 inches. This test is exceedingly important to handlers of rubber, leather, and cotton belting as it makes it possible to make lap splices as strong or stronger, than the belt itself—a feature of great value. [Ohio Rubber Co., Cleveland, Ohio.]

PATENT BEER HOSE PROTECTOR AND CLAMP.

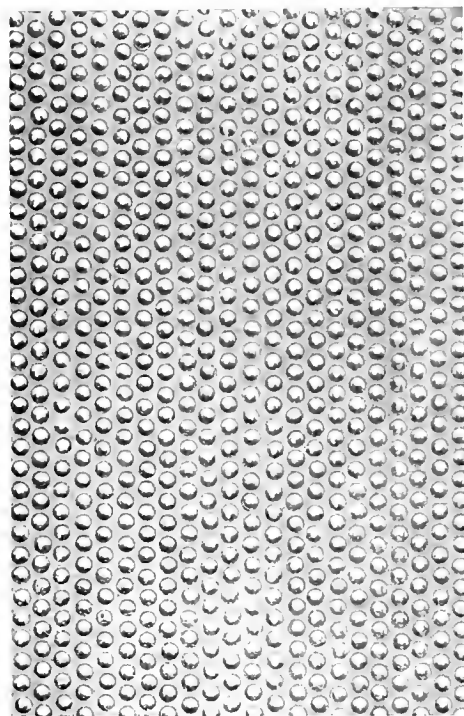
TIME was when trouble was not unusual with beer hose through kinking, and consequent breakage and leakage, as indicated at the left of the accompanying cut. Beside the item of loss of the contents of barrels, was the expense of repairs. To obviate such trouble has been invented the lately patented device



shown in the illustration, which consists of a spiral wire for the protection of the hose and a clamp to hold it in position. It is readily adjusted, and permits of the employment of shorter lengths of hose. It is inexpensive and is guaranteed for two years. It is stated by brewers that the least obstruction in the pipes, such as a kink in the hose, will make beer draw foamy and spongy, whereas with a straight, clear opening, the beer will show up rich and creamy. Here is the explanation of much beer being condemned as to quality, the fault being entirely with the condition of the hose. It is stated that more than 20,000 of these protectors are now in use in Chicago alone. [Zimmerman & Rothchild, No. 354 State street, Chicago, Illinois.]

THE "PEERLESS" KNOB STEP MATTING.

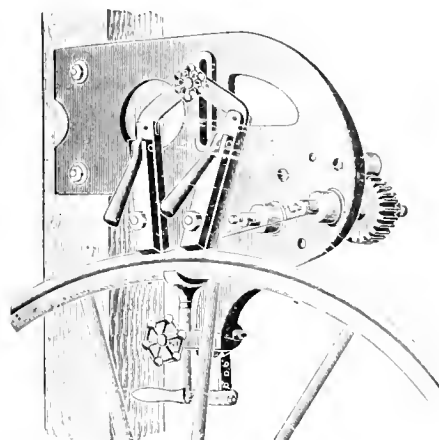
A NEW type of matting designed to take the place of the ordinary corrugated article that is so generally sold, is shown in the accompanying illustration. A special advantage of this matting is that it gives much more spring to the tread, is ca-



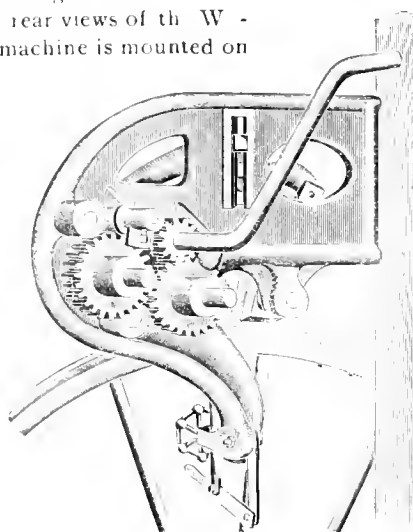
pable of as much, or more wear than the corrugated, and does not have a tendency to collect dirt as does the other. It is made in rolls of any width up to 180 inches, and with initials if desired. [Peerless Rubber Manufacturing Co., New York.]

NEW MACHINE FOR PUTTING ON TIRES.

A VERY simple arrangement for attaching solid tires to vehicle wheels is shown in the front and rear views of the Williams tire machine, on this page. The machine is mounted on



FRONT VIEW.



REAR VIEW.

a post, to which it is attached by two coach screws. The wheel is then set in a saddle, above which is a hand wheel. The wires are then inserted in the tire, extending about 3 inches at one end, and 18 inches at the other. The wires at one end are then made fast in the clamp and tightened in a jaw; the other end of the tire is brought around the wheel and made fast in another clamp; and then, by the use of a crank

pinion, two winding spindles are set in motion, which tighten the wires before cutting, and hold them so that they overlap each other about $\frac{5}{8}$ inch, when they may be easily brazed. An idea of the simplicity and effectiveness of the machine, may be gained from the illustrations. [The Williams Foundry and Machine Co., Akron, Ohio.]

THE "BUCK" TWO-PIECE HORSESHOE PAD.

THE illustration accompanying this sketch shows perhaps as simple a horseshoe pad as has yet appeared and, incidentally, the pad is of low cost.

It has already proved its utility and is very generally sold throughout the trade to-day, although it is quite new. It is made in three sizes and two weights, and from these sizes it is possible to fit any sized horseshoe. This pad, by the way, is adapted for use by either road or draft horses. An economical feature and advantage is that either of both halves of the pad can be inserted at any time by any blacksmith. The value of the pad, of course, lies in the fact that it prevents the foot from slipping, furnishes proper support to the frog, and allows of ventilation of the hoof. It is made of the best possible wearing stock and its durability is guaranteed. [The Firestone Tire and Rubber Co., Akron, Ohio.]



NEW TRADE PUBLICATIONS.

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, New Jersey), in issuing a handsome and well arranged catalogue of High Grade Mechanical Goods, call attention to the thirty years' experience in the trade of Mr. John J. Voorhees, the president of the company. The catalogue describes and quotes prices for the staple lines of mechanical goods, and special praise can be given for the clearness of the cuts used in illustrating the various brands of goods described. It is plain that these cuts have been made for their present use, instead of having been borrowed from some out-of-date stock, and they cannot fail to make a favorable impression upon dealers and consumers into whose hands the book may fall. [4½" × 6¾". 112 pages.]

THE VEHICLE APRON AND HOOD CO. (Columbus, Ohio), who have been in business since March, 1901, issue a catalogue of a variety of carriage goods which they manufacture from rubber proofed cloth purchased in the East. Such goods are hoods, aprons, storm fronts, and the like,

and one specialty of their work is the employment of elastic going to make aprons for buggies adjustable, and to make hoods fit neatly. [3½" × 6½". 20 pages.]

THE WILLIAMS FOUNDRY AND MACHINE CO. (Akron, Ohio) send us a Catalogue of Tire and Rubber Mold Machinery, devoted especially to their new machines for applying wired on rubber tires. [3¼" × 6". 12 pages.]

THE TEXTILE GOODS MARKET.

THE year 1902 has been a record breaker so far as the textile and rubber trades are related. It would be a difficult matter to say just what has been the percentage of increase in the consumption of cotton duck and sheeting during the past twelve months over the previous year, but persons in the best position to speak declare that it has a material one. Furthermore, there is every reason to believe that the coming year is going to be still better. It is an easy matter to forecast the trade in these fabrics, for the consumers base their advance orders upon the consumption during the past year, and from year to year these orders have been increasing until they have now reached a volume nearly 50 per cent. above those five years ago. It merely means that the rubber trade is constantly expanding.

The December number of THE INDIA RUBBER WORLD contained references to a contemplated movement on the part of the Canadian parliament to check the importation of American cotton ducks into the Dominion by placing a 25 per cent. tariff upon the goods. While steps have been taken by American manufacturers to thwart such a plan, it would be premature to make them known at this juncture. It can be said, however, that if the Canadian powers desire to place an embargo upon American goods by instituting new tariff methods, there is nothing that can prevent them, but it is possible to counteract such a duty by inaugurating new methods on this side.

There is constantly growing competition between the manufacturers of rubber belting and the manufacturers of stitched belting. This is true in Canada as well as in the United States, and one of the singular features in connection with the strife for business is the fact that some Americans are working hand in hand with the Canadians. During the past month a company was organized for the purpose of manufacturing stitched belting in the Dominion. It is known as the Stitched Belting Co. and is capitalized at \$50,000. Considerable of the stock is held by New Yorkers, who also hold the offices. It is understood that the new concern has been incorporated for the explicit purpose of competing against the rubber manufacturers in Canada. Several harvesting machine concerns in the Dominion are large consumers of rubber belting, and the new company proposes to make a bid for this business. There is no denying the fact that stitched belting is making inroads upon the rubber belting trade, and it is being encouraged by the Canadian manufacturers of cotton duck, who, of course, view the situation from a mercenary standpoint. It will furnish them an outlet for their product, which is now almost a drug on the Canadian market on account of the competition of American goods.

December has not been conspicuous for its sales of cotton duck or lighter weight sheetings. Rubber manufacturers, however, have been calling for the goods which they ordered during the previous month, and these demands have been such that the cotton duck mills have been kept exceedingly busy. It is doubtful if there has been a cotton duck loom idle unless it has been for the want of practical weavers to operate it. Rubber manufacturers seem to be satisfied with the course they pursued in placing their orders for the year last September and October. Were the same contracts to be made on the basis of the raw cotton market to day it is doubtful if the price would be as low. The most recent report on the raw cotton crop, by Colonel H. G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the 110 days of the present season was 6,130,992 bales, an increase over the same period last year of 127,599 bales. The exports were 3,085,878 bales, a decrease of 39,922

bales; taken by northern spinners, 887,449 bales, a decrease of 32,000; by southern spinners, 754,398 bales, an increase of 76,398. Prices have been gradually creeping up, and the market to-day shows an advance of about twenty-five points over the figures on December 1. The speculation in futures has been only moderately active, but some traders have been inclined to regard the bullish factors in the market with more favor, and their influence has been felt. The receipts have been falling off, and day by day they are growing lighter as compared with last season's showings. Those who care, are left to construe these conditions to mean that the crop is a light one. Those who take a more hopeful view of the situation have not to look far for conditions explanatory of the change. Planters are feeling quite independent and are unwilling to part with their holdings until they feel assured they are getting the best prices consumers are likely to offer. The warring tendencies leave the general market in a rather flat state, and while the trend of prices is upward the movement in that direction is a slow one. Neither spinners nor exporters have been buying freely of late, evidently hoping that the current estimates of a large yield might have the effect of reducing the rates on spot offerings. The following figures show the price of spot cotton at the port of New York, New Orleans, and Liverpool at the close of each week in December:

	New York.	New Orleans	Liverpool.
December 6	8 50c.	7 1/8c.	4.46d.
December 13	8 55c.	8 1/8c.	4.52d.
December 20	8.70c.	8 1/4c.	4.52d.
December 27	8.75c.	8 1/4c.	4 5/4d.

Boot and shoe manufacturers have bought comparatively little sheeting during the month. There have been an abundance of inquiries for goods, and consumers seem to feel that if they were certain that raw cotton is not going to recede from its present price level they would attempt to cover themselves on the goods they use. The fact that the Chinese buyers have awakened from their lethargy of several months, and are now daily placing orders for heavy brown sheetings and drills, certainly does not have a bearish influence on the goods market. During the past week more than 50,000 bales of these goods were purchased for the Orient, and the movement is keeping up. The chief business has been done in nearly everything from standards up to 3 25 yard goods, and the price paid was close to the asking figure. Sellers became easier to deal with when they saw that exporters were paying all they could afford to, and the result has been to stiffen prices all around. It therefore seems needless for the rubber manufacturer to look for better prices immediately on sheetings. On the other hand, it is more than probable that prices on all cotton goods will remain firm for some time to come. Following are the current quotations for cloths used most by the rubber trade:

Forty inch, 2.50	6 1/4 cents.
Forty inch, 2.70	5 3/4 cents.
Forty inch, 2.85	5 1/2 cents.
Forty inch, 3.60	4 5/8 cents.
Thirty-six inch, 3-yard	5 1/8 cents.

AMAZON STEAM NAVIGATION CO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The directors of the Amazon Steam Navigation Co., Limited, at their meeting to day, have declared a dividend on account of the current year of 2 per cent., or 5 shillings per share, free of Income tax, payable on and after January 6, 1903. The transfer books of this company will be closed from Monday, December 22d inst., to Monday, January 5, 1903, both days inclusive.

G. STREET & CO., LIMITED.

30, Cornhill, London, December, 17, 1902.

EXPORTS OF AMERICAN RUBBER GOODS

FISCAL YEAR ENDED JUNE 30, 1902.

EXPORTED TO—	Belting, Packing, and Hose.	Boots and Shoes.	Other Goods.	Total Value.
	Pairs.	Value.	Value.	
EUROPE:				
Austria-Hungary	\$ 591	180	\$ 78	\$ 3,981
Azores and Madeira	47	273	154	487
Belgium	2,258	81,193	24,139	2,069
Denmark	6,500	22,171	8,090	6,200
France	7,881	526,238	155,365	30,588
Germany	38,083	355,202	129,033	159,017
Gibraltar		102	4	375
Italy	1,197	5,508	2,187	57,553
Netherlands	2,257	15,761	5,815	32,111
Portugal	195	1,772	717	483
Roumania		122	110	110
Russia	2,733			714
Spain	556	10,370	3,498	590
Sweden, Norway	4,134	6,346	3,010	7,729
Switzerland	1,616	21,188	7,931	468
Turkey in Europe	199	39,595	15,041	15,340
United Kingdom	76,125	1,173,494	462,822	617,303
Total, Europe	\$139,476	2,259,654	\$819,122	\$1,932,157
NORTH AMERICA:				
Bermuda	\$ 1,497	189	\$ 155	\$ 872
British Honduras	816			3
Nova Scotia, New Brunswick	9,960	42,050	37,656	4,429
Quebec, Ontario, etc.	31,565	58,800	19,437	328,658
British Columbia	33,527	19,187	7,904	19,103
Newfoundland, Labrador	3,865	15,395	9,346	1,012
Costa Rica	2,524	18	14	1,969
Guatemala	4,737	316	791	4,787
Honduras	2,535			835
Nicaragua	2,759	120	10	3,907
Salvador	5,512			1,343
Mexico	124,773	2,503	1,455	92,222
Michoulan, Langley, etc.	308	2,357	2,089	2,397
West Indies—British	7,899	784	829	5,324
Cuba	46,160	4,053	2,842	85,814
Danish	469	377	21	87
Dutch	245	6	6	167
French	56			17
Haiti	320	13	139	678
Santo Domingo	2,111	370	14	683
Total, North America	\$281,968	126,639	\$113,060	\$49,182
SOUTH AMERICA:				
Argentina	\$ 7,880		\$	\$ 6,675
Bolivia	371			240
Brazil	2,048	2,477	1,591	12,219
Chile	4,109	774	711	2,413
Colombia	3,996	1,762	700	3,934
Ecuador	12,332	228	75	866
Guianas—British	604	48	63	61
Dutch	257			38
Peru	1,669			44.6
Uruguay	498	1,000	38	482
Venezuela	1,820	60	22	3,811
Total, South America	\$ 35,484	6,349	\$ 3,559	\$ 35,165
ASIA:				
Chinese Empire	\$ 3,482	2,237	\$ 1,716	\$ 13,474
China—Kossan	3,235			561
East Indies—British	4,000	552	19	3,829
Dutch	1,612			172
Hong Kong	1,782	5,465	5,518	9,612
Japan	21,667	18,861	11,481	81,267
Korea				237
Russia, Asiatic	45			45
Turkey in Asia		530	264	530
Total, Asia	\$ 34,864	27,648	\$ 15,966	\$105,587
OCEANICA:				
British Australasia	\$ 75,509	156,414	\$ 84,860	\$ 70,678
British Oceania				320
French Oceania	2,94	84	49	769
German Oceania				11
Philippine Islands	20,888	3,409	3,990	33,694
Total, Oceania	\$ 98,891	159,907	\$ 88,499	\$105,472
AFRICA:				
British Africa—West	\$	1	\$ 3b	\$ 17
South	38,674	14,499	6,088	11,295
Portuguese Africa	2,153			1,175
Egypt				221
Other Africa	2,636			288
Total, Africa	\$ 43,463	14,511	\$ 6,118	\$ 12,996
GRAND TOTAL 1902	\$634,116	2,594,708	\$1,046,315	\$1,781,94
Grand Total, 1901	665,726	1,459,100	\$724,017	\$1,727,527
Grand Total, 1900	541,830	767,104	420,746	1,405,212
Grand Total, 1899	486,586	260,886	1,504,499	1,765,385
Grand Total, 1898	391,832	224,707	1,499,157	1,723,862
Grand Total, 1897	306,026	195,499	1,611,646	1,897,145
Grand Total, 1896	350,713	216,657	1,612,499	1,857,156
Grand Total, 1895	383,792	225,886	1,279,157	1,505,142
Grand Total, 1894	261,657	155,011	1,306,831	1,461,842
Grand Total, 1893	420,950	252,391	1,357,013	1,609,404
Grand Total, 1892	231,105	185,570	1,232,497	1,418,067

[(*)—Belting, Packing, and Hose were included in the column of "Other Goods. Value," previous to the three past fiscal years.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first ten months of 1902, compared with the same period of three years preceding, not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January-October....	\$ 79,903	\$139,585	\$ 191,991	\$ 411,479
October.....	513,036	718,759	1,467,000	2,699,395
Total, 1902	\$593,539	\$858,344	\$1,658,991	\$3,110,874
Total, 1901	502,264	733,329	1,470,164	2,705,767
Total, 1900	443,939	526,878	1,200,061	2,231,778
Total, 1899	(a)206,105	238,815	1,253,388	1,253,388

(a) Included in "All Other" prior to July 1, 1899.

The number of pairs of rubber boots and shoes exported during the ten months was 1,948,294, against 1,799,009, in the same period of 1901 and 1,014,810 pairs in ten months of 1900.

RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during four weeks ended November 25, 1902:

Aus.-Hung'y \$ 2,092	Dutch W. Ind \$ 29	Portugal... \$ 1,001
Australia... 8,807	Dan. W. Ind 15	Port. Africa. 640
Azores.... 163	Ecuador.... 147	Peru..... 385
Belgium.... 6,257	France..... 5,260	Philippines.. 1,469
Brazil..... 2,721	Germany... 18,383	Russia..... 80
Brit. Africa.. 11,484	Great Britain 57,868	Sweden... 896
Brit. E. Ind. 803	Haiti..... 10	San Domingo 268
Brit. W. Ind. 1,621	Italy..... 640	Spain..... 115
Brit. Guiana. 304	Japan..... 1,246	Switzerland.. 555
Central Amer 1,244	Mexico.... 3,856	Turkey (Asia) 74
Colombia... 647	New Zealand 6,115	Venezuela... 217
Cuba..... 10,002	Newfoundld. 059	
China..... 2,166	Netherlands. 6,956	Total.. \$161,484
Chili..... 908	Norway... 2,746	
Denmark.... 762	Nova Scotia. 1,573	

SUMMARY.

July 2-29 (four weeks).....	\$117,578
July 30-August 26 (four weeks).....	119,103
August 27-September 23 (four weeks).....	161,041
September 24-October 28 (five weeks).....	208,861
October 29-November 25 (four weeks).....	161,484
Total.....	\$768,067

RUBBER GOODS TRADE IN JAPAN.

MR. SHIZUO KONDO, of the Japan-American Trade Bureau (Tokio and New York), informs THE INDIA RUBBER WORLD that up to nine or ten years ago such rubber goods as were imported into Japan were almost wholly of British origin. A little later the market began to appeal to German interest, resulting in considerable imports of German rubber goods. After the war between China and Japan, American goods began to attract more attention, and for awhile the first rank in the rubber goods import trade was held by the United States, with Germany second, and Great Britain third. Latterly the volume of American goods received has declined, which Mr. Kondo attributes to the American manufacturers having become too busy with domestic orders to follow up the advantage which they had once gained in the export trade. Mr. Kondo thinks that the demand for rubber goods of all kinds will increase steadily in Japan, and that with adequate attention to the trade the United States could control a much larger share of it. From official statistics quoted by Mr. Kondo it appears that the Japanese imports of "sheet rubber" from the United States amounted to 66,704 pounds in 1899; 96,344 pounds in 1900; and 80,777 in 1901. Rubber belting and hose are not separately reported, being included with leather belting and other appliances for machinery. As for imports of other rubber goods credited to the United States, the value amounted in

1899 to 204,581 *yen*; in 1900 to 332,853 *yen*; and in 1901 to only 162,897 *yen*. [The value of the *yen* in United States gold is about 50 cents.] The rubber industry of Japan continues to grow, the imports of crude rubber officially reported having increased from 77,865 pounds in 1899 to 107,438 pounds in 1900, and 154,924 pounds in 1901.

Official Statistics of India-Rubber and Gutta-Percha.—United States.—Fiscal Year 1901-1902.

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

FROM—	Pounds.	Value.
<i>Europe:</i>		
Belgium.....	5,567,789	\$2,962,736
France.....	178,109	94,197
Germany.....	1,653,678	713,134
Netherlands.....	238,625	128,539
Portugal.....	1,795,051	824,440
United Kingdom.....	6,114,107	3,039,000
Total.....	15,517,359	\$ 7,762,046
<i>North America:</i>		
British Honduras.....	34,316	17,072
British Columbia.....	2,700	250
Costa Rica.....	119,229	51,286
Guatemala.....	139,070	55,810
Honduras.....	83,295	34,684
Nicaragua.....	732,000	403,710
Salvador.....	47,825	15,537
Mexico.....	263,909	101,097
West Indies—British.....	63,094	24,888
Total.....	1,485,418	\$704,934
<i>South America:</i>		
Brazil.....	31,534,700	15,743,476
Colombia.....	469,974	164,674
Ecuador.....	615,648	250,973
Guiana—Dutch.....	826	2,453
Peru.....	32,690	21,818
Uruguay.....	1,507	607
Venezuela.....	161,207	91,419
Total.....	32,818,492	\$16,275,320
<i>Asia:</i>		
Chinese Empire.....	2,448	876
East Indies—British.....	558,621	155,820
Total.....	561,069	\$156,696
<i>Oceania:</i>		
British Australasia.....	1,143	834
GRAND TOTAL.....	50,413,481	\$24,899,230

Total, 1900-01.....	55,275,529	28,455,283
Total, 1899-00.....	49,377,138	31,376,867
Total, 1898-99.....	51,063,066	31,707,620
Total, 1897-98.....	46,055,497	25,386,010
Total, 1896-97.....	35,571,449	17,457,376
Total, 1895-96.....	35,771,449	16,601,020
Total, 1894-95.....	39,741,607	18,353,121
Total, 1893-94.....	33,757,783	15,077,933
Total, 1892-93.....	41,547,680	17,809,239
Total, 1891-92.....	39,976,205	19,718,216

Chinese Empire.....	2,448	876
East Indies—British.....	558,621	155,820
Total.....	561,069	\$156,696

Oceania:		
British Australasia.....	1,143	834
GRAND TOTAL.....	50,413,481	\$24,899,230

II.—Imports of Manufactures of India-Rubber, by Countries.

[+ Indicates increase; — indicates decrease.]

FROM—	Value.
Austria-Hungary.....	\$ 1,372+
Belgium.....	21,792+
France.....	110,870+
Germany.....	128,608+
Italy.....	40+
Netherlands.....	1,680+
Russia.....	1,099+
United Kingdom.....	113,589+
Other Europe.....	120
British North America.....	653
Chinese Empire.....	27+
Hongkong.....	379+
Japan.....	112
Other countries.....	15—
Total, 1901-02.....	\$449,756—
Total, 1900-01.....	478,663
Total, 1899-00.....	564,083
Total, 1898-99.....	379,309
Total, 1897-98.....	309,247
Total, 1896-97.....	297,353
Total, 1895-96.....	294,228
Total, 1894-95.....	315,902
Total, 1893-94.....	309,308
Total, 1892-93.....	338,435

INDIA-RUBBER.

III.—Imports of Crude India-Rubber, by Customs Districts.

At—	Pounds.	Value.
Boston.....	2,034,435	\$ 1,001,120
New York.....	47,706,856	23,585,953
Philadelphia.....	17,353	8,029
Mobile.....	3,800	1,618
New Orleans.....	438,994	247,512
Alaska.....	2,700	250,000
San Francisco.....	176,587	55,204
Buffalo Creek, N. Y.....	1,200	121
Other ports.....	1,565	390
Total.....	50,412,481	\$24,899,230

IV.—Imports of Manufactures of India Rubber, by Customs Districts.

At—	Value.
Baltimore.....	\$ 6,833
Boston.....	57,431
Newport News.....	3,087
New York.....	320,836
Philadelphia.....	13,226
Porto Rico.....	2,431
San Francisco.....	9,476
Chicago.....	25,793
Cincinnati.....	2,382
St. Louis.....	2,635
Other ports.....	5,727
Total.....	\$449,766

V.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	Other Rubber Goods.
Baltimore.....	\$ 43	\$ 415	\$ 6,226
Bangor.....	2,215	3,474	1,176
Boston and Charleston.....	12,428	529,114	333,191
New York.....	408,964	43,942	907,730
Passamaquoddy.....	1,061	1,060	105
Philadelphia.....	226	3,063	232
Portland and Palm'th.....	.....	24	311
Galveston.....	8	.....	.....
Key West.....	129	.....	108
Mobile.....	270	139	79
New Orleans.....	16,035	.....	15
Arizona.....	11,529	308	6,945
Corpus Christi.....	.....	.....	14,373
Paso del Norte.....	23,351	.....	17,962
Saltillo.....	15,152	15	10,674
Alaska.....	8,457	11,641	928
Puget Sound, Wash.....	15,559	23,263	14,535
San Diego, Cal.....	800	6	259
San Francisco, Cal.....	82,111	11,581	132,942
Buffalo Creek.....	.....	.....	50,015
Cape Vincent.....	.....	.....	506
Champlain.....	1,603	212	50,141
Chicago.....	.....	.....	10
Cuyahoga.....	334	.....	5,436
Detroit.....	7,668	.....	28,604
Genesee.....	.....	.....	216
Huron.....	327	.....	9,504
Memphremagog.....	5,219	11,896	5,583
Miami.....	135	.....	.....
Montana and Idaho.....	11	.....	.....
Niagara.....	.....	.....	103,445
North and S. Dakota.....	5,497	1,018	5,615
Oswegatchie.....	1,299	.....	10,748
Oswego.....	.....	.....	56
Sandusky.....	.....	8	.....
Superior.....	633	55	508
Vermont.....	13,082	5,970	64,163
Total.....	\$634,146	\$1,046,315	\$1,781,941

RUSSIAN EXPORTS OF RUBBER SHOES.

THE exports of "galoshes" from Russia for 1900 are officially stated at an equivalent of 4,960,084 pounds in weight, and \$1,685,030 in value. The share going to Germany amounted to 2,709,378 pounds in weight, and \$847,881 in value. Hamburg alone imports 1,000,000 pairs of Russian overshoes yearly.

GUTTA-PERCHA.

I.—Imports of Crude Gutta-Percha, by Countries.

FROM—	Pounds.	Value.
Belgium.....	2,697	\$ 1,537
France.....	220	174
Germany.....	208,902	101,547
Netherlands.....	1,125	736
United Kingdom.....	189,731	132,552
East Indies—British.....	122,910	15,746
East Indies—Dutch.....	152	37
Total, 1901-02.....	525,767	\$252,329
Total, 1900-01.....	280,560	130,557
Total, 1899-00.....	427,678	178,616
Total, 1898-99.....	518,939	167,577
Total, 1897-98.....	636,477	159,381

GUTTA-JULETONG (FONTIANAK).

United Kingdom.....	45,069	\$ 2,148
East Indies—British.....	16,805,752	499,270
Total, 1901-02.....	16,850,821	\$501,418
Total, 1900-01.....	9,371,087	248,838

NOTE.—About 10 per cent. in volume and 80 per cent. in value of the Gutta-percha imported arrived at New York, and the remainder principally at Boston. Of the Pontianak 16,644,731 pounds arrived at New York, 112,289 at San Francisco, and 93,801 pounds at Boston.

II.—Imports of Manufactures of Gutta-Percha, by Countries.

FROM—	Value.
Austria-Hungary.....	\$ 38
Belgium.....	3,307
France.....	9,249
Germany.....	10,714
Netherlands.....	4,685
United Kingdom.....	7,193
British Columbia.....	365
Cuba.....	6
Total, 1901-02.....	\$127,780
Total, 1900-01.....	163,337
Total, 1899-00.....	254,332
Total, 1898-99.....	115,782
Total, 1897-98.....	176,197
Total, 1896-97.....	97,194

RECLAIMED RUBBER.

Exports of Reclaimed Rubber, by Countries, for Four Years.

To—	Value, 1898-99.	Value, 1899-00.	Value, 1900-01.	Value, 1901-02.
Austria-Hungary.....	\$ 10	\$8,490	703	1,250
Belgium.....	2,704	1,000	13,200	38,310
France.....	9,606	2,274	48,419	20,191
Germany.....	30,766	56,263	17,604	12,291
Italy.....	6,890	16,119	2,734	6,550
Netherlands.....	463	2,923	575	5,552
Den mark.....	2,600	2,033	.....	18,313
Russia.....	146	.....	.....	320,844
Spain.....	8,325	6,149	10,103	143,276
Sweden-Norway.....	110,747	125,902	295,409	42
Great Britain.....	108,568	259,406	200,422	175
Canada.....	24,653	9,226	1,072	40
Mexico.....	1,330	2,214	2,830	.....
Japan.....	138	60	442	.....
Other lands.....	.....	.....	.....	.....
Total.....	\$376,962	\$492,284	\$642,093	\$569,698

[Exports, 1896-97, \$119,440; 1897-98, \$257,639.]

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER GOODS MANUFACTURING CO.

THE policy of reorganization of the Rubber Goods Manufacturing Co. referred to in these pages last month has since been more fully carried out through the placing of Mr. Charles H. Dale at the head of the mechanical rubber goods production of the leading factories controlled by the organization, just as Mr. Lewis D. Parker had previously been placed in charge of the tire branch. Mr. Dale was already president of the Peerless Rubber Manufacturing Co. He has been elected president also of the New York Belting and Packing Co., Limited, and of the Mechanical Rubber Co.—the latter embracing a number of constituent companies—and a vice president of the Rubber Goods Manufacturing Co., and will be made a director in the Stoughton Rubber Co. This will give Mr. Dale complete charge of the mechanical goods work of all the allied companies, giving them the benefit of the same methods of management that have proved so successful in the case of the Peerless company, and at the same time eliminate a certain degree of friction which was inevitable so long as the various companies occupied the position, to a certain extent, of competitors. It is safe to say that under the new arrangement the policy of the company will be in the direction of fair prices for good goods, and a competition based upon quality rather than quantity. There are evidences that the new move is regarded with favor by those companies on the outside whose preference is for competition of this sort.

The history of Charles H. Dale, in connection with the rubber business, is an exceedingly interesting one, and is practically the history of the Peerless Rubber Manufacturing Co. which, starting on a small scale, has grown to be one of the most profitable mechanical rubber establishments in the world. For years the Peerless company has been a great money maker and incidentally Mr. Dale himself has accumulated a large fortune. Personally he is a solidly built, active, aggressive man, with an abundant fund of good nature, with a frankness almost akin to bluntness. He is not in the least visionary, never seeing rainbows (with the exception, perhaps, of "Rainbow" packings), and is a man who does business on business principles every day in the week. When congratulated upon his new position he insisted that he wore a hat of exactly the size as for several years past.

Mr. Dale is not only a typical American, but a typical New Yorker. The son of a New York physician, he was educated in the public schools of the city, taking a semi-collegiate course with the idea of studying law, but his personal impulse was in favor of railroad work, and he kept at his father until he was allowed to follow his bent. A warm friend of the family, Mr. S. S. Merrill, general manager of the Chicago, Milwaukee and St. Paul railroad took the boy in hand and, in order to test him, started him out one dark rainy night as brakeman on a freight train. It was no doubt something of a surprise to the young-

ster, who had planned soon to be general manager of the line, but he stuck to his post and in due time got to be conductor, and later superintendent of the transportation. He made a study of railroad equipment and that brought the rubber business to his attention, and before long he gave up railroading and joined the Peerless Rubber Manufacturing Co. as salesman. In this field he showed great capacity for developing the best things that the Peerless had in the line of their specialties. He became manager of sales, and a large stockholder, and later president of the company.

The securities of the real estate syndicate held by the Rubber Goods Manufacturing Co., and which were regarded by the interests which lately came into control of the company as an undesirable asset for a manufacturing corporation, have been taken over by a syndicate headed by Mr. August Belmont, at a consideration of \$750,000. Of this amount \$400,000 has been paid into the treasury of the company, and the remaining \$350,000 is due to be paid on January 10, thus placing the Rubber Goods company in a more satisfactory financial condition.



CHARLES H. DALE.

BOSTON BELTING CO.

At the annual meeting of the shareholders in Boston on December 1, the following directors were elected: James Bennett Forsyth, James Pierce, George A. Miner, J. H. D. Smith, George H. Forsyth, Charles H. Moseley, and Lewis M. Crane. J. H. D. Smith was re-elected treasurer; Edward Upham, clerk; and Thomas Lang and Thomas Lang, Jr., auditors. During the year quarterly dividends of 2 per cent. were paid as usual, and subsequent to the date mentioned dividend No. 133 was declared, payable January 1.

BOURN MAKING INSULATED WIRE.

THE Bourn Rubber Co. (Providence, Rhode Island), as already announced, have begun the manufacture of insulated wire on quite a large scale. While the raw stock is prepared in the factory devoted to the manufacture of rubber boots and shoes, a large separate building has been acquired for the installation of the tubing machines, braiders, and appliances necessary to the production of all sizes of rubber covered wire, except large cables. The new department is now running successfully, ninety braiding machines, manufactured by the New England Butt Co. (Providence), having been installed.

STANDARD UNDERGROUND CABLE CO.

THE erection of what is said to be the largest and most modern plant in the United States for rolling copper rod, drawing bare wire, and insulating weatherproof wires and cables, has about been completed for this company, in addition to their large factory for underground cable work and rubber insulated wire and cables at Perth Amboy, New Jersey. The rod mill was started on November 25, the wire mill is now in operation, and the weatherproof factory is expected to be by February 1. The capacity of the rod mill is 3,000,000 pounds per month;

that of the wire mill 2,000,000 pounds working single turn; and that of the weatherproof factory 500,000 pounds of wire and cable, working single turn.

THE INDIA RUBBER AND INSULATED WIRE CO.

THE company are just completing a three story addition to their factory at Jonesboro, Indiana, 30x100 feet, the first floor to be used for a tinning room and the second and third floors for drying rooms. They have recently added to their equipment several new mixing mills and another calender. Within the past six months they have increased their braiding facilities about 20 per cent.

KOKOMO RUBBER CO. (KOKOMO, INDIANA.)

NEW machinery has been installed in the additional factory building completed about two months ago, all the old machinery was overhauled during the recent shutdown, and the factory is now at full capacity on contracts for the coming season. Their contracts for solid rubber vehicle tires are on a larger scale than at any time in the past. The company are understood to have had a very prosperous year.

ALLING RUBBER CO.'S FIFTH STORE.

THE Alling Rubber Co., of New Haven, Connecticut, have purchased the retail store of the Crown Rubber Co., No. 52 Asylum street, Hartford, and will continue the business under the name Alling Rubber Co. It will be in charge of Amos P. Mitchell, who becomes associated as a partner in the Alling Rubber Co. This makes five rubber stores in Connecticut conducted by the Messrs. Alling. The oldest is that at Norwich. In 1895 a second was opened at Bridgeport, followed by stores at Stamford and New Haven.==Arthur P. Towne, the late owner of the Crown Rubber Co., has opened an office in the Catlin building, Hartford, for wholesaling rubber hospital supplies.

THE RUBBER INDUSTRY AT NAUGATUCK.

A LOCAL newspaper reports that never before in the history of Naugatuck has business been so brisk in the rubber factories there. Work has been steady, and wages satisfactory, and the opinion is expressed that any suggestion of a strike would be regarded with little favor by the rubber workers. There has been no rubber workers' union at Naugatuck since the strike of 1886, when the Knights of Labor were quite strong there. The strike was speedily settled and the labor organization soon came to an end.

THE INDUSTRY AT AKRON.

THE present season is reported to be an exceptionally busy one for the Akron rubber factories. One superintendent, quoted by a correspondent of THE INDIA RUBBER WORLD, says that there has been no dull time at his factory during the past summer and autumn, as has been the case in some years, and that they had such an unlooked for rush of work that they were caught unprepared and had to pick up washed rubber from any source that it could be bought for. They found also that the other factories had a similar experience. The large factories have all been running day and night shifts.

HOOVER-BALL CO. (NEWARK, OHIO.)

THIS firm, organized January 1, 1902, to do a jobbing business in bicycles, bicycle sundries, tires of all kinds, druggists' sundries, and other rubber goods, was incorporated without change of firm style December 1, under New Jersey laws, with \$25,000 capital. Harry J. Hoover, who has been elected president of the corporation, imported from England the first safety bicycle ever sold at Newark; in 1892 he opened the Newark Cycle Store, for a retail trade, which, in 1899, became the Newark Cycle Supply Co., wholesale and retail, with Eugene F. Ball associated with the business as manager. The retail

branch was discontinued a year ago, and the subsequent changes are recorded above. Mr. Ball is still connected with the business, being secretary and treasurer of the new company. The rubber goods handled bear the brand "Avalon," and are made for the company, mostly at Akron. Mr. Hoover is also cashier of the Licking County Bank and interested in other business enterprises. Two traveling salesmen are employed: G. O. Simmons, of Bucyrus, Ohio, and James Fintze, of New York, the latter having been at one time a salesman for Morgan & Wright tires.

L. K. MC CLYMONDS LEAVES THE RUBBER GOODS.

AT a meeting of the Mechanical Rubber Co., held on December 8, Mr. L. K. McClymonds resigned as a director, president and general manager of that company, and as director and officer of its several allied companies. In accepting his resignation the board adopted the following resolution:

Resolved, That in accepting the resignation of Mr. L. K. McClymonds as president and a director of this company, the board of directors place on record their appreciation of Mr. McClymonds's services to the company. He was one of the most important founders of the company; has been its manager and a director, and vice president or president from its organization. He has served the company with marked ability, energy, and integrity, and we believe that it is largely owing to his efforts that the company's business has reached its present earning power and prosperity.

In 1873 Mr. McClymonds began his career in the rubber business by assuming the management of the Cleveland Rubber Co., whose sales were then less than \$30,000 per year. In 1878 he organized the Chicago Rubber Works. In 1892 he was instrumental in consolidating these two companies with the New York Belting and Packing Co., Limited, the Stoughton Rubber Co., and the Fabric Fire Hose Co., under the name of the Mechanical Rubber Co., of which he was made general manager, and moved to New York. In 1899 the Rubber Goods Manufacturing Co. was formed, taking over the Mechanical Rubber Co. and its allied companies, and other rubber manufacturing companies. Mr. McClymonds's management of these companies has always been able and aggressive, resulting in a remarkable growth of business. Their aggregate sales now run into the millions, and their yearly earnings are larger and they are in a more prosperous condition than ever before in their history. His policy has always been broad and liberal to secure outlets for goods, that the factories could be operated to their full capacity, and produce goods at lowest cost. He has also recognized the tendency of maker and consumer to come into closer relations by distributing goods through the companies' own stores located in all the important points in the country.

METROPOLITAN RUBBER CO. (WALLINGFORD, CONN.)

IN the Connecticut superior court, at New Haven, on November 26, Alfred N. Wheeler, an assistant state attorney, was appointed a committee to hear and determine the merits of the claim of Charles A. Place, of New York, in his suit for \$27,000, alleged to be due him as salary unpaid as president of the Metropolitan Rubber Co., for three years ending March 1, 1900. On April 11, 1902, application for the appointment of a receiver for the Metropolitan Rubber Co. was made by Wilmot R. Evans and two others—trustees under the will of Abner J. Tower, former treasurer of the company and holder of 6700 of the 10,000 shares of its capital stock—and for the winding up of the affairs of the company, which then had been out of business for two years. George N. Gunn was appointed receiver. The suit of Mr. Place, brought originally in the New York supreme court, was transferred in February, 1902, to the United States circuit court for the southern district of New York. The motion for the appointment of a committee by the Connecticut court,

above noted, was made on the motion of Receiver Gunn, and against the contention of the attorneys for Mr. Place that the court had no jurisdiction, their client's suit having been filed in another court.

RUBBER TRADING CO. (NEW YORK).

MR. WILLIAM T. BAIRD has issued a circular letter to the trade, as follows:

"I beg to announce that after nearly thirty years' service with the New York Belting and Packing Co., and with the Mechanical Rubber Co. since its organization, I dissolved my connection with these companies on December 1 in order to assume the presidency of the Rubber Trading Co. In addition to my other duties, I have for many years purchased all the crude rubber used by the above mentioned companies, and with the knowledge and experience thus acquired, I have decided to enter the crude rubber business and have assumed the management of the Rubber Trading Co., jointly with my brother, Mr. Robert B. Baird, who has been actively connected with the crude rubber trade for the past twelve years."

At a meeting of the shareholders on December 11 the capital of the company was increased to \$50,000, which amount, it is stated, has been fully paid, in cash.

MR. REIMERS RETIRES.

THE copartnership firm of Reimers & Co., crude rubber merchants, No. 67 Pine street, New York, ceases on this date by the limitation of time, and the business will be continued at the same address under new articles of copartnership by Poel & Arnold, Mr. Hermann Reimers retiring. The capital of Heilbut, Symons & Co. (Liverpool), as special partners, will remain in the firm. Messrs. Frank Poel and Charles H. Arnold, the new general partners in the firm, have long been connected with the house and enjoy a wide and favorable acquaintance with the trade. Mr. Arnold hitherto has represented the house in Boston, but hereafter will be found at the New York office. Mr. Reimers began his connection with the house in May, 1876, at which time the business was conducted under the name of E. Marcus. The style of the business was changed subsequently to Charles Loewenthal, Charles Loewenthal & Co., Reimers & Meyer, and, on January 1, 1900, to Reimers & Co. Mr. Reimers retires to enjoy a respite from business in travel in Europe, after a quarter of a century of unremitting work which has brought a liberal measure of success. The Boston office of Poel & Arnold will be in charge of E. E. Wadbrook.

NOT READY TO ADOPT METAL HOSE.

APROPOS of a report that the fire department of Pittsburgh, Pennsylvania, would substitute metal hose for the rubber suction hose now used to connect fire engines with hydrants, Mr. A. H. Leslie, director of the Pittsburgh department of public safety, advises THE INDIA RUBBER WORLD: "While there is a section or two of the metallic suction hose for fire engines on exhibition at Speck-Marshall Co.'s office in this city, we have not been considering its adoption, as it is yet an experiment and rather expensive." The cost of the metal hose is reported to be \$12.50 per foot—double the cost of rubber, or more. It is claimed that only 8 feet lengths would be needed, whereas 10 feet of rubber would be needed, besides which the metal hose is so much more durable as to make it, in the end, cheaper than rubber.

STANDARD LUGS FOR RUBBER TIRES.

MENTION has been made already in THE INDIA RUBBER WORLD of the standardization of steel channels for rubber carriage tires, to the mutual advantage of everybody concerned. A similarly desirable result has attended the movement in progress for sometime past in the direction of adopting a

standard method of spacing lugs and of determining the number of them to be used in rims for single tube tires. The National Association of Automobile Manufacturers has adopted as its standard the following regulation: "For rims 26 and 28 inches in diameter, five lugs placed 25 degrees, 98 degrees, and 180 degrees, on each side of the valve; for rims 30, 32, 34, 36, and 38 inches in diameter, eight lugs, placed 25 degrees on each side of the valve, then 40 degrees and 50 degrees alternately." This action has been taken after correspondence with various tire makers, and its object is to avoid the inconvenience resulting from attempting to fit a tire to a rim designed for a different number of lugs than are contained in the tire.

AUTOMOBILES AT MADISON SQUARE GARDEN.

FROM the interest manifested by exhibitors and the trade in the third annual automobile show to be opened on January 17 at Madison Square Garden, New York, it is probable that this will prove the most extensive and successful exhibition of motor vehicles and accessories yet held in the United States. Practically all the available space has been allotted and not only will the leading American manufacturers be represented, but also a number of foreign concerns. The manufacturers of rubber tires have arranged to be prominently represented, including—

The Consolidated Rubber Tire Co.	New York.
Diamond Rubber Co.	Akron, Ohio.
Firestone Tire and Rubber Co.	Akron, Ohio.
G & J Tire Co.	Indianapolis, Indiana.
The B. F. Goodrich Co.	Akron, Ohio.
Goodyear Tire and Rubber Co.	Akron, Ohio.
Hartford Rubber Works Co.	Hartford, Connecticut.
International Automobile and Vehicle Tire Co.	New York.
Metallic Rubber Tire Co.	New York.

CONSOLIDATED RUBBER TIRE CO. (NEW YORK).

THE protest of this company—which is a New Jersey corporation—against the amount of state taxes assessed against it in Ohio was overruled in a decision by the secretary of state announced on November 26. The company sought to have the assessment reduced on the ground that the greater part of its assets consists of trade marks and good will. The secretary of state holds that the value placed upon good will and trade marks must be computed as part of the actual valuation of the company's property, and that a proportionate share of this must be allotted to the company's manufacturing plants in Ohio. As many other foreign corporations have claimed a similar exemption, the new decision will have the effect of largely increasing the revenues of the state of Ohio.

THE STATUS OF THE GRANT TIRE PATENT.

THE fact was reported in the last INDIA RUBBER WORLD that the United States supreme court had denied the application of the Rubber Tire Wheel Co. for a writ of *certiorari* to bring before it for review a decision of the United States circuit court of appeals for the sixth circuit, in the case of that company against The Goodyear Tire and Rubber Co., respecting the validity of the Grant patent on solid rubber tires. This fact has been widely regarded in the trade as definitely settling the litigation on this point, as if the refusal of the supreme court to review the decision rendered at Cincinnati in May last had the effect of sustaining that decision. It appears, however, that an absolutely final disposition of the matter has not yet been reached. It will be remembered that decisions favorable to the Grant patent have been rendered in more than one United States circuit court in other jurisdictions. If an appeal should be taken from one of these decisions to the appellate court in the appropriate circuit, and such decision should be affirmed in that court, the situation would exist of the Grant

patent being held invalid in one appellate circuit and valid in another, in which event the United States supreme court would be obliged to give a hearing to the matter if called upon to do so. As the matter stands, the assailants of the patent hold a decision from the highest court that has pronounced judgment, and any further step will have to be taken by the parties adversely affected by that decision, who are the Consolidated Rubber Tire Co. They have given no public intimation of what their further course may be.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES RUBBER CO. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 22	525	17½	16	510	54	52½
Week ending Nov. 29	100	17	17	10	52½	52½
Week ending Dec. 6	50	15¾	15¾	395	52¼	51
Week ending Dec. 13	4,880	16¼	14½	930	50½	49½
Week ending Dec. 20	845	15¾	14¾	1,163	52	50¼

RUBBER GOODS MANUFACTURING CO. :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 22	5,450	24¼	20½	800	72¼	71
Week ending Nov. 29	815	22	21¾	430	72	70¾
Week ending Dec. 6	2,825	23¾	21½	355	71	68¼
Week ending Dec. 13	4,280	23	20½	450	70¾	68
Week ending Dec. 20	1,480	22	21	967	70	69½

NEW ENGLAND RUBBER CLUB.

THE club is now certain of a place in the World's Hall of Fame, for Frank E. Buttolph, who created the famous Buttolph collection of *menus* at the New York Public Library, writes asking for two *menus* of the club's recent Thanksgiving dinner, saying: "It is very novel, and certainly unlike anything I possess, though variety is a distinguishing feature of my large library collection. I would greatly like to send one to the British Museum in London and keep the other here."

RUBBER TRADE ON THE PACIFIC COAST.

THE Gorham Rubber Co. (San Francisco, California) are now occupying one of the finest office and warehouse buildings in the city. With the new lines that they take up on January 1st they will occupy four floors each 40 × 137 feet. The San Francisco store and the branch at Seattle, employ some twenty men, the latest addition to the force being Mr. F. G. Sargent who for many years past has been with the Goodyear Rubber Co., of San Francisco.

CHEWING-GUM INDUSTRY AT PITTSBURGH.

A CHEWING GUM manufactory, independent of the American Chicle Co., is in operation at Pittsburgh, Pennsylvania, in addition to the one at San Francisco, mentioned in this paper last month. It is that of The Chuddy Manufacturing Co., started under private ownership in 1889 and incorporated under Pennsylvania laws in 1901. The officers are Charles H. Humbert president; William K. McGinness, treasurer; and Frank W. Smith, secretary. The address is No. 3 Barker place.

THE L. CANDEE & CO. (NEW HAVEN).

THE factory of this company was reported recently to have 1700 names on the pay roll, and to be in need of more experienced rubber workers than could be found. The orders received during the month past had exceeded by 50 per cent. the capacity of the factory. A similar condition is reported from other factories. The weather of late has stimulated the buying of rubber boots and shoes, besides which dealers in many sections had begun the season without left over goods. The num-

ber of orders on hand at the various factories insures plenty of work for several months to come.

AMERICAN BELTING CO. (YOUNGSTOWN, OHIO).

J. EDWIN DAVIS has retired from the Republic Rubber Co., to devote his entire time to the American Belting Co., incorporated May 23, 1901, with \$50,000 capital, to manufacture canvas stitched belting. Mr. Davis is president of the company and William W. Hunter, who has been with the company from the beginning, is treasurer and manager. The company's business in stitched belting is now double what was originally planned, and the capital will be increased with a view to adding a rubber molded goods department.

AMERICAN BICYCLE CO. REORGANIZATION.

NOTICE has been given that the reorganization committee of the above company—now in the hands of receivers—representing large amounts of its debentures and preferred and common stock, have adopted a plan and agreement of reorganization which is filed with the Central Trust Co. of New York, at No. 54 Wall street. The holders of the company's securities are invited to deposit the same with the Trust company not later than January 7, 1903, in exchange for negotiable receipts. When, in the judgment of the committee, a sufficient amount of securities shall have been deposited, the plan will be declared effective. Upon the purchase of the properties of the American Bicycle Co. by the committee, under the provision of the agreement, a new company is to be organized to acquire such property, which will authorize the issue of \$2,500,000 in 6 per cent. cumulative first preferred stock; \$10,000,000 in non cumulative 6 per cent. preferred stock; and \$10,000,000 in common stock. Holders of the present 5 per cent. debentures are to receive 100 per cent. in new second preferred stock; holders of present preferred stock to receive, on payment of \$9 per share, \$9 in new first preferred stock and \$50 in new common stock; holders of present common stock to receive, on payment of \$9 per share, \$9 in new first preferred stock and \$25 in new common stock. The present capital and debentures of the company amount to \$36,146,400, requiring annually for interest, preferred dividend, and sinking fund \$1,358,143. Under the proposed reorganization there will be a capital of \$22,500,000 with a requirement of \$750,000 for preferred dividend instead of the old annual charge of \$1,358,143. The proposed payments by stockholders would yield \$2,428,676 in cash, which would provide for the outstanding debts of the company and of the constituent corporations, and leave more ample working capital than the company have had hitherto. It is stated that Colonel Albert A. Pope, who is a larger holder of the company's bonds than any other individual, is in favor of the adoption of the reorganization plan, but that the plan will be strongly opposed. There has been a widespread feeling that Colonel Pope will be chosen as the head of such company as ultimately may be formed to succeed the present American Bicycle Co.—The table which follows is a record of transactions on the New York Stock Exchange in the company's securities for several weeks past:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 8	700	1	¾	...	...	...
Week ending Nov. 15	600	1¼	¾	...	...	...
Week ending Nov. 22	4100	1¾	1½	1700	6	4
Week ending Nov. 29	1500	1½	1½	175	5½	5½
Week ending Dec. 6	1600	1¼	1½	3285	6	4
Week ending Dec. 13	3750	¾	¾	1000	4	2½
Week ending Dec. 20	900	1½	1¼	...	...	...
Week ending Dec. 27	1900	½	¼	300	2½	2

TRADE NEWS NOTES.

THE Hodgman Rubber Co. (New York) will remove on February 1 to larger premises a little farther up town, at Nos. 806-808 Broadway—opposite Eleventh street.

=The Omo Manufacturing Co. (Middletown, Connecticut) on December 1 reduced their working day to 9 hours, day hands to continue to receive 10 hours' pay. Hands employed on piece work will also have an increase in pay.

=Bowers Rubber Co. (San Francisco, California) have established a distributing bureau for their products in Boston, at No. 242 Purchase street, with Caspar M. Brown as manager.

=The National India Rubber Co. (Bristol, Rhode Island), are reported to have been so active of late in making rubber shoes that it was necessary to draw help from the departments of the factory.

=Alexander M. Bartow, for several years cashier and confidential man for W. R. Brixey, manufacturer of "Kerite" cables (New York), is reported to have been missing for some time, while the books of the concern show a shortage of several thousand dollars, with which he is charged.

=The Goodyear Rubber Co. have installed a new 250 H. P. boiler in their factory at Middletown, Connecticut, which increases their boiler capacity to 650 H. P.

=The Lawrence Felting Co. (Millville, Massachusetts) are erecting an iron water tower to be 180 feet high, with a tank holding 50,000 gallons of water, to supply their sprinkler system and that of the Woonsocket Rubber Co.'s boot factory, near by.

=Standard steel channel for solid and cushioned rubber tires, embodying the ideas illustrated in THE INDIA RUBBER WORLD of September 1, 1902 (page 377), is being supplied by the Railway Steel-Spring Co., of Detroit, Michigan.

=The H. W. Johns-Manville Co., asbestos manufacturers of New York, with \$3,000,000 capital, have been admitted to do business in Ohio as a foreign corporation. Their office in that state is at Cleveland, and their agent upon whom process may be served is Harry Gillett, of that city.

=Rubber pad carriage steps are being manufactured by The Cleveland Hard Rubber Co., of Cleveland, Ohio.

=The Connecticut trade in Kelly-Springfield solid rubber tires hereafter will be supplied direct by the Consolidated Rubber Tire Co.'s New York branch office—No. 1784 Broadway—instead of through the Springfield Rubber Tire Co., New Haven.

=The town of Beaver Falls, Pennsylvania, has awarded a contract to the Eureka Fire Hose Co. (New York), to furnish 3000 feet of 2½ inch cotton-jacket rubber hose, at \$1 per foot.

=Captain William Prampolini, an Italian civil engineer, who, some two years ago, obtained a patent in the United States for extracting the gum of a Mexican plant known locally as "guayule," was reported recently to be negotiating for the erection of a factory at Binghamton, New York, for carrying out his process.

=The Berlin Rubber Manufacturing Co., Limited, have opened an office and salesroom in St. James street, Montreal.

=Harold O. Smith, after ten years' connection with the Indianapolis Rubber Co. (Indianapolis, Indiana), and the G & J Tire Co., an outgrowth from the latter, has retired from their management, but it is not yet stated what new business he will become identified with.

=Johnson, Moody & Co. (Boston) on December 18 sold at auction 7000 cases of rubber footwear, out of date and slightly imperfect goods mainly from the United States Rubber Co. factories. The attendance was good and the prices obtained satisfactory.

=L. T. Vance, hitherto superintendent of The Durham Rubber Co., Limited (Bowmanville, Ontario), will take charge of the plant of the Eureka Rubber Manufacturing Co., now building at Trenton, New Jersey.

=The Fisk Rubber Co. (Chicopee Falls, Massachusetts) are now marketing the double tube detachable tire which has been mentioned already in connection with their name in THE INDIA RUBBER WORLD. This tire is made under patents owned by the Fisk Rubber Co., and not under a license from any other company.

=Peter Sherbondy, a timekeeper at the office of The B. F. Goodrich Co. (Akron, Ohio), after having been for 32 years in their employ, has been retired on full pay. The notification of this came to him as a Christmas present.

=J. M. Gallaway, general traffic manager for the United States Rubber Co., has been in Boston lately arranging to combine with his department the same work for the Boston Rubber Shoe Co. J. Alvin Scott, who has been traffic and insurance agent of the Boston Rubber Shoe Co., after transferring his freight business to Mr. Gallaway, will have charge of the entire insurance business of the United States Rubber Co. and the Boston Rubber Shoe Co.

=The Chicago branch of Edward R. Rice, selling agent for the Joseph Banigan Rubber Co., will be known from this date as the Binner Rubber Co., Edward R. Rice, proprietor, and J. D. McDonald, Manager.

=Fire from an unknown cause at midnight of December 20 destroyed a four story warehouse, Nos. 109-111 First avenue, south, Minneapolis, Minnesota, occupied by W. S. Nott Co., manufacturers of leather belting and large jobbers of rubber goods, with all the contents. The loss on goods, estimated at \$35,000, is covered by insurance. This was not the principal building occupied by the Messrs. Nott.

=The feeling exists in some quarters in Canada that an overproduction of rubbers exists in that country. The requirements of the country are not over \$3,000,000 a year, says the *Canadian Shoe and Leather Journal*, while the producing capacity is about \$5,000,000. There is a probability, however, that the production will be somewhat reduced this winter, owing to the fact that one of the factories is closing down. The reference probably is to the Boston Rubber Co. of Montreal, Limited.

=The city of Barberton, Ohio—named for President Barber, of The Diamond Match Co.—standing on what was farm land ten years ago, boasts a population to day of 10,000 and predicts double this number ten years hence. Four years ago the rubber industry had not been introduced there. There are now four rubber factories in the place and a fifth is building, which would indicate that in one respect, at least, Barberton is attempting to rival her near neighbor, Akron.

=The auction sale of rubber footwear held by Benning & Basalou in Montreal, on November 13 to 16, was well attended by buyers from all over Canada. Over 10,000 cases were disposed of, prices averaging 10 to 20 per cent. higher than last year. It was one of the largest auction sales in the history of the trade, aggregating over \$100,000 worth.

=Charles Schermerhorn, who has been made foreman of the shoe department of the Lambertville (New Jersey) Rubber Co., has been employed there for twenty-four years, with the exception of a few months in 1883, which he spent at the Candee rubber factory, in New Haven.

=A number of friends of Mr. Charles P. Goldenbaum, one of the foremen of the Vulcanized Rubber Co. (Morrisville), gathered at his home at Trenton on the evening of December 13—his thirty fourth birthday—and presented him with a smoking set, after which the evening was spent in dancing.

Mr. Goldenbaum is a member of the Trenton city council and also a justice of the peace.

=The Trenton Young Men's Christian Association on the evening of December 13 tendered a reception to the local rubber workers. There was an address on the work of the association, after which refreshments were served and the remainder of the evening was devoted to games and athletic sports. The rubber mills' committee of the association, mentioned lately in THE INDIA RUBBER WORLD, took part in the reception.

=The firm of J. H. Stedman & Co., Inc. (Boston), dealers in scrap rubber, have removed from No. 200 Summer street to larger quarters in the Hathaway building, No. 620 Atlantic avenue, which adjoins their former location.

=The White Anchor Relief Association, a beneficiary organization composed of employes of The B. F. Goodrich Co. (Akron, Ohio), celebrated the completion of the large five story addition to the company's factory on the evening of December 5, with a dance and reception in the new structure, where there was a large attendance and many visitors were shown through the building.

BARBERTON RUBBER CO. (BARBERTON, OHIO).

CHARLES AMMERMAN, of Barberton, was mentioned in the last INDIA RUBBER WORLD as having purchased land in that town for a rubber factory site. A company is to be formed under the name of a Barberton Rubber Co., for the manufacture of seamless dipped rubber goods, and it is expected that they will become incorporated in January, with \$50,000 capital. The company have formed an organization, and have erected a one story tiled building for experimental work, and plans have been prepared for a two story factory about 50 X 100 feet. The names of the interested parties, with the exception of Mr. Ammerman, are still withheld.

NEW INCORPORATIONS.

THE Empire State Horseshoe Co. (New York), December 18, under New York laws, to make rubber cushions and elastic tread horseshoes; capital, \$350,000. Directors: Elliott C. Cowdin, Mount Kisco, New York; Robert A. Inch, Theodore L. Bailey, I. Corwin Bryant, W. J. Harvey, W. G. Tiffany, Francis M. Ware, New York city.

=The International Rubber Co., December 23, under New Jersey laws, to import India rubber and manufacture the same into boots, shoes, blankets, and other articles; capital, \$10,000. Incorporators: L. W. Snyder, Samuel M. Roberts and Herbert C. Westbrook, all giving as their address, Camden, New Jersey. Camden is near Philadelphia, from which city recently emanated a newspaper report that an International Rubber Co. was about to be incorporated in New Jersey with \$10,000,000 capital, to take a commanding position in the rubber industry.

OBITUARY.

JULES HENRI SPADONE died on December 7 at San Francisco, California, where, for twenty years, he had been connected with the Pacific coast branch of the Gutta Percha and Rubber Manufacturing Co. Mr. Spadone was born in New York city 40 years ago, his father, whose full name he took, being a brother of Mr. Amadée Spadone, now president of the Gutta Percha and Rubber company. The father of the deceased was a soldier in the armies of the Union, in which he won a record for bravery under General Grant. The son's taste at first decided him upon a sea life, and it was while on a United States school ship that he first saw San Francisco. Once there he reconsidered his earlier determination, and connected himself with the rubber business in which his uncle was interested, winning for himself a desirable position and a wide circle of devoted friends.

At a meeting of the San Francisco Rubber Trade, held in the rooms of Manufacturers' and Producers' Association, December 9, 1902, the following resolution was unanimously adopted:

Resolved, That we sincerely regret the untimely death of our friend Jules H. Spadone, who has been identified with and favorably known to the Pacific coast rubber trade for twenty years. During that time he has held responsible positions with honor, and been the direct representative of one of the largest rubber manufacturing companies in the United States. His character and habits were above reproach, and his death is a great loss.

Resolved, That a copy of this resolution be furnished the press of San Francisco, and Portland, Oregon, also THE INDIA RUBBER WORLD, New York.

BOWERS RUBBER COMPANY.	BOSTON WOVEN HOSE & RUBBER CO.
W. F. BOWERS, President.	J. V. SELBY, Manager.
GOODYEAR RUBBER COMPANY.	THE GUTTA PERCHA & RUBBER MFG. CO.
R. H. PEASE, President.	BATES & HOUGH, Managers.
REVERE RUBBER COMPANY.	PACIFIC COAST RUBBER CO.
A. T. DUNBAR, Manager.	H. C. NORTON,
NEW YORK BELTING & PACKING CO., LTD.	Manager and Vice-President.
C. H. CHASE, Manager.	

=Patrick Cavanaugh, senior member of Cavanaugh Brothers & Knapp (New York), and local manager of the Standard Rubber and Oil Clothing Co. (Brockton, Massachusetts), died on December 18 at the latter place, at the age of 45 years. The funeral occurred in New York on December 22.

=Mr. Jacob Perkins, an influential citizen of Warren, Ohio, a trustee of the Ohio state hospital at Cleveland, and a cousin of Colonel George T. Perkins, president of The B. F. Goodrich Co., of Akron, died on November 30, of pneumonia.

PERSONAL MENTION.

AT the first monthly smoker of the Massachusetts Automobile Club, of Boston, on the evening of November 28, the principal feature was a talk on "India rubber from the Forest to the Factory," by Mr. Henry C. Pearson, Editor of THE INDIA RUBBER WORLD.

=Messrs. Porfirio Nogueira and Enéas Martins, of Manaus, special representatives of the state government of Amazonas, Brazil, are now in New York in connection with raising a loan of £1,500,000, in 5 per cent. gold bonds, redeemable at the rate one-thirtieth part per annum, for the purpose of refunding the state debt and providing funds for public purposes. The revenues of the state—mainly export duties on rubber—are especially charged with the payment of principal and interest.

AKRON (OHIO) PERSONALS.

COLONEL GEORGE T. PERKINS, president of The B. F. Goodrich Co., is planning to go to California with his family; starting in February, for two months' absence.

=One of the most enthusiastic of automobilists is Mr. A. H. Marks, of the Diamond Rubber Co. Akron is too hilly to be well suited for cycling, but its many long stretches of superb block asphalt pavement render it attractive to the automobilist. Mr. Marks uses a powerful Winton machine, while Mr. F. H. Mason, of the Goodrich company, goes to and from the factory in a Baker runabout.

=Mr. Henry Alden has decided to leave his class at Yale and become connected with the Alden Rubber Co., of which his father is president.

=Mr. Charles C. Goodrich, of The B. F. Goodrich Co., attended the annual festivities of the Associated Harvard Clubs, at Cincinnati, on December 13. Mr. Goodrich and Mr. R. L. Chipman, of Akron, are members of the Harvard Club of Cleveland.

THE NEW PACIFIC CABLES.

DURING the last days of the year the laying of the cable of the Commercial Pacific Cable Co. between San Francisco and Honolulu was successfully completed by the *Silver-town*, the cable laying ship of the India Rubber, Gutta Percha, and Telegraphs Works Co., Limited, (London). The remainder of this cable, to reach the Philippines, is now being manufactured by the Telegraph Construction and Maintenance Co. (London), and the last section, to connect Manila with Shanghai, doubtless will be contracted for soon.

On December 8 the Pacific cable laid by the British government and its colonies across the Pacific, from Vancouver to Victoria, was formally opened for business, the laying of the cable having been completed on October 31 by the closing of the last link at Suva, Fiji islands.

AN AMERICAN MADE CABLE FOR MEXICO.

THE contract taken by The Safety Insulated Wire and Cable Co. (New York) to make and lay 472 nautical miles of submarine cable for the Mexican government telegraph depart-

ment, to connect the ports of Vera Cruz, Frontera, and Campeche, in the gulf of Mexico [mentioned in THE INDIA RUBBER WORLD, January 1, 1902—page 116], has been successfully completed and the cable is now working. The cable was manufactured at the Safety company's new works at Bayonne, New Jersey. It consists of a stranded conductor of nine copper wires, with rubber insulation, armored with sixteen wires for deep water and eighteen wires for shore ends. The deep sea cable has a diameter of about 1½ inches and weighs 2½ long tons per nautical mile. For a cable ship the Safety company chartered the steamer *Ydun*, which was handed over to the company at Brooklyn, New York, on August 19 last. The *Ydun*, with the cable coiled on board, reached Vera Cruz on September 13. On October 10 the laying of the cable was completed, including the erection of the cable houses at the three ports named, and the cable has since been taken over by the Mexican government and has been working successfully. The engineering specifications for the manufacture of the cable were drawn by Mr. Ira W. Henry, vice president of the Safety company.

REVIEW OF THE CRUDE RUBBER MARKET.

NOT only does every grade of rubber included in our quotation list show an advance to-day over one month ago, but there has been an even larger advance over the prices of one year ago. Islands fine new is 10 per cent. higher than at the beginning of the year; Upriver fine old 8 per cent. higher; Centrals average 21 per cent. higher, and all grades of Africans show a material increase. These advances are the more notable in view of the heavy decline in prices which followed the throwing upon the market of \$2,000,000 or \$3,000,000 worth of rubber in consequence of the failure of a large importing house in New York, in January last, with the result of upsetting the market throughout the world. This surplus stock of rubber remained a disturbing feature for several months, due to the action of its holders—bankers who had made advances upon it—seeking to avoid a complete sacrifice of the rubber by permitting all of it to be offered at once. While this policy prevented a worse demoralization of the market, and enabled some sort of standard of prices to be maintained, manufacturers were disinclined so long as any of this surplus was known to exist to buy beyond their current actual necessities. This abnormal condition permitted opportunities for the manipulation of prices, which undoubtedly were availed of to a certain extent, with the effect of still further depressing the market, to a lower point than was warranted by conditions of supply and demand. The result was that a hope was engendered that an era of lower prices had been inaugurated, and in consequence consumers were not prepared for the advance which, beginning late in the year, has now reached a higher level than existed a year ago, when at least 1500 tons of importations at New York had been held out of the market.

The chief question to-day relates to the probable further course of the market. The receipts at Pará thus far are about 1500 tons less than at this date last season, in addition to a shortage of 300 tons of cacho. The arrivals at Antwerp for the first eleven months of 1902 were 1000 tons less than in the same period of the preceding year. Stocks, in every market show a decline, the total world's visible supply of Pará sorts being 900 tons less than was officially reported one year ago. This shortage, of course, is offset by the subsequent coming into the market of the New York stocks not then reported,

but there has been a decline in the supplies of other grades than Pará. For instance, there was held at Antwerp on November 30 only 186 tons of rubber, as against 843 tons one year before. There is always an uncertainty at this time of the year as to what supplies of rubber may be detained up the Amazon valley. THE INDIA RUBBER WORLD'S correspondents have reported all season the sending out of fewer boats in this trade, and it is reasonably certain that the troubles on the Acre—a "revolution" having been inaugurated there on August 6 which has not yet been declared off—have had the effect of suspending production in a district which under normal conditions should supply 2000 or 3000 tons of Pará rubber.

Rubber production, therefore, not only is not showing the rate of increase maintained for several years up to 1901, but this year will show a material decline. Meanwhile the rubber manufacture in every country in which it has been established has been active, there having been in no country such business conditions as have lessened the demand for rubber goods except, perhaps, in Germany, where the manufacturers have been able through their growing export trade to offset any check in the trade at home.

There is nothing in the conditions outlined above to point to the limit of rubber production having been reached. On the other hand, facilities for reaching the remoter South American fields are being improved all the while, even if slowly, and the tendency is toward the better conservation of native supplies there. The decreased output from the Congo districts has been due in part to a deliberate policy of the rubber trading companies which, for some time, have seen their earnings suffer through the careless handling of their rubber products, of devoting their energies to the better preparation and more careful shipment of rubber, rather than to getting out the greatest possible quantity.

It appears now as if manufacturers would have to adapt themselves to a condition of rubber practically as high priced as at any time of considerable duration in the past, in connection with which no promise exists of an early decline in the cost of the other raw materials which enter into their products.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us:

"During December there has been very little call for paper, on account of the stringent money market and high rates, and what small demand there has been from out of town banks has ruled at 6 @ 6½ per cent. for the best rubber paper, and 7 @ 7½ for names not so well known."

New York quotations on December 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....88	@89	Tongues.....54	@55
Islands, fine, old....91	@92	Sierra Leone, 1st quality 78	@79
Upriver, fine, new....90	@91	Benguella.....63	@64
Upriver, fine, old....95	@96	Cameroon ball.....57	@58
Islands, coarse, new....60	@61	Flake and lumps.....39	@40
Islands, coarse, old....	@	Accra flake.....21	@22
Upriver, coarse, new....73	@74	Accra buttons.....56	@57
Upriver, coarse, old....	@	Accra strips.....58	@59
Cacho (Peruvian) sheet 59	@60	Lopori ball, prime... 77	@78
Cacho (Peruvian) ball 69	@70	Lopori strip, do ....73	@74
CENTRALS.		Madagascar, pinky...78	@79
Esmeralda, sausage...68	@69	Madagascar, black	@
Guayaquil, strip.....60	@61	EAST INDIAN.	
Nicaragua, scrap ....68	@69	Assam.....65	@67
Mangabeira, sheet....49	@50	Borneo.....38	@52

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.	5\$650	Upriver, fine....	6\$500
Islands, coarse	3\$350	Upriver, coarse.....	5\$000
Exchange, 11½d.			

Last Manáos advices:

Upriver, fine....	6\$175	Upriver, coarse.	4\$475
Exchange, 12½d.			

NEW YORK RUBBER PRICES FOR NOVEMBER (NEW RUBBER).

	1902.	1901.	1900.
Upriver, fine.....	78½@82	93 @97	84 @87
Upriver, coarse	63 @68	68 @70	63½@66
Islands, fine ...	73 @76	89 @94	76½@80
Islands, coarse	48 @51½	52 @57	46½@50
Cametá, coarse	48½@52½	55 @56	48 @51

Statistics of Para Rubber (Excluding Cacho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.
Stocks, October 31 .. tons	147	23 =	170	345	579
Arrivals, November.....	1096	367 =	1463	1405	574
Aggregating.....	1243	390 =	1633	1750	1453
Deliveries, November.....	1083	379 =	1462	1215	574
Stocks, November 30..	160	11 =	171	535	579

PARÁ.					
	1902.	1901.	1900.	1902.	1901.
Stocks, Oct. 31 .. tons	145	375	415	1250	880
Arrivals, November...	2650	2645	2172	1000	1055
Aggregating.....	2795	3020	2587	2250	1935
Deliveries, November.	2640	2610	1977	1050	1050
Stocks, Nov. 30..	155	410	610	1200	885

ENGLAND.					
	1902.	1901.	1900.	1902.	1901.
World's supply, November 30..... tons	3082	3080	3397	8734	9327
Pará receipts, July 1 to November 30	8734	9327	7595	556	763
Pará receipts of Cacho, same dates	556	763	385	710	325
Afloat from Pará to United States, Nov. 30..	710	325	588	846	925
Afloat from Pará to Europe, November 30 ..	846	925	670		

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic....	75¢ @ 73½
Do —Foreign.....	65¢ @ 63½
Pneumatic Bicycle Tires.....	53½
Solid Rubber Wagon and Carriage Tires.....	61½
White Trimmed Rubber.....	95¢ @ 97½
Heavy Black Rubber.....	4½
Air Brake Hose.....	23½ @ 27½
Fire and Large Hose.....	2½
Garden Hose	1½
Matting.....	1

Balata.

AT the London auction on December 12, 314 packages were offered and about 190 sold. Fair Demerara sheet at 2s. 5d.; mixed ditto at 2s. 2d.; thick heart soft at 2s.; reboiled at 1s. 10d., low at 1s. Venezuelan block at 2s. 0½d.; rejections at 1s. 2d. @ 1s. 4d.

Gutta-Percha.

WEISE & Co., of Rotterdam, report the following exports of Gutta percha from Singapore for the first ten months of four years past:

	1899.	1900.	1901.	1902.
Tons.....	5458	5314	4810	3570

Bordeaux:

ARRIVALS NOVEMBER 1 TO DECEMBER 13.

Soudan sorts.	kilos	55,900
Cassamance.....		23,600
Bassam.....		5,000
		84,500

RECENT PRICES PER KILOGRAM.

Soudan:	Madagascar:
Twists, good.....7. @7.50	Pin. ky 6.50@6.75
Twists, ordinary..6.50@6.75	Niggers 3.50@5.
Niggers, good.....7. @7.30	Tamatane, black...5.50@5.95
Niggers, ordinary..6.40@6.60	Majunga 4.50@5.95
Niggers, earthy...5.50@6.	Sierra Leone:
Bassam lumps....3.90@4.70	Niggers, red...7.40@7.80
Bassam cakes...3.90@6.10	Niggers, white...7.15@7.35
Cassamance A.P.A....6.10@6.80	New Caledonia...7.50@7.75
Cassamance A.M.B....4. @5.20	Java.....6.75@6.75

Rubber Receipts at Manaos.

DURING November and for the first five months of the crop season, and compared with former years (by courtesy of Messrs. Witt & Co., Manaos):

FROM—		JULY.			NOVEMBER.		
		1902.	1901.	1900.	1902.	1901.	1900.
Rio Putú.....	tons	249	497	318	1448	1871	1455
Rio Madeira.....		240	267	333	1134	1331	1203
Rio Jurú.....		183	604	38	452	1185	384
Rio Javary—Iquitos...		246	120	192	554	595	385
Rio Solimões.....		153	268	187	598	772	439
Rio Negro.....		21	12	17	90	29	23
Total.....		1092	1768	1085	4276	5783	3889
Caucho.....		94	302	77	415	816	401
Total.....		1186	2070	1162	4691	6599	4291

London.

EDWARD TILL & Co., December 1, report stocks:

		1902.	1901.	1900.
LONDON	Pará sorts..... tons	—	—	—
	Borneo.....	93	142	217
	Assam and Rangoon.....	2	70	31
	Other sorts.....	230	457	782
Total.....		325	669	1030
LIVERPOOL	Pará.....	1178	890	941
	Other sorts.....	580	966	1090
Total, United Kingdom.....		2083	2525	3061
Total, November.....		2337	2602	3040
Total, October.....		2464	2802	2846

PRICES PAID DURING NOVEMBER.

	1902.	1901.	1900.
Pará fine, hard.....	3/4½ @3/6	3/5¾ @3/7½	3/10½ @4/1
Do soft.....	3/0¾ @3/1½	3/3¾ @3/5½	3/9½ @3/11
Negroheads, Islands.	2/1½ @2/2	1/11 @2/1	2/1¾
Do scrappy.	2/8½ @2/10	2/8	2/1½ @2/10½
Bolivian.....	3/4¾ @3/6	3/6½ @3/7¼	4/0¼ @4/2

DECEMBER 12.—The market for Pará has been very firm during the past month, prices showing at the close an advance of 1d. over last report, with indications of an upward tendency. A good business has been done, including fine hard at 3s. 5d. @ 3s. 5½d. spot, with old import at 3s. 6¼d. @ 3s. 6½d.; January-February delivery 3s. 5¾d. and March-April 3s. 6d. Soft cure spot sold at 3s. 2d. @ 3s. 3d. and forward at 3s. 2½d. @ 3s. 3¼d. Some very old Bolivian sold at 3s. 7d. and entrefine at 3s. 5d.,

fine Mollendo 3s. 3d., and Matto Grosso fair virgin sheet at 3s. Negroheads are dearer, with sales of scrappy at 2s. 9 $\frac{3}{4}$ d. and Islands and Cametés at 2s. 2d. Peruvians continue scarce, fine selling at 3s. 5 $\frac{1}{4}$ d.; ball (Cauchó) at 2s. 9d. @ 2s. 9 $\frac{1}{2}$ d. and slab (Cauchó) at 2s. 3 $\frac{1}{2}$ d. @ 2s. 4 $\frac{1}{2}$ d. At auction to-day medium grades were in good request and sold with competition at higher rates. Colombian good brown and white scrap at 2s. 8d.; fair Ecuador scrap and roll at 2s. 6 $\frac{1}{2}$ d.; Mozambique fair clean stickless sausage 2s. 9 $\frac{3}{4}$ d. @ 2s. 10 $\frac{1}{4}$ d.; fair Lamu ball 2s. 6 $\frac{3}{4}$ d. @ 2s. 7d.; Uganda fair clean ball 2s. 6 $\frac{1}{4}$ d. @ 2s. 6 $\frac{1}{2}$ d.; Nyassa good reddish and livery ball at 2s. 11 $\frac{1}{4}$ d. @ 2s. 11 $\frac{1}{2}$ d.; ditto strong white ball at 2s. 9 $\frac{3}{4}$ d. @ 2s. 10d. Twenty-one cases of Ceylon rubber from Pará seed were offered and 17 sold; good thin biscuits at 3s. 11 $\frac{1}{2}$ d. and scrap at 2s. 7d. @ 2s. 7 $\frac{1}{2}$ d.

Liverpool.

WILLIAM WRIGHT & CO. report [December 1]:

Fine Pará.—Up to the middle of the month the market continued strong and active, and prices of new Upriver fine advanced to 3s. 5 $\frac{1}{4}$ d., old to 3s. 6d., and Islands to 3s. 3 $\frac{1}{4}$ d.; then, owing to American manipulation, prices of Upriver were forced down to 3s. 4d., and Islands to 3s. 1d. Receipts, especially of Upriver continued small. At the close prices have recovered to 3s. 4 $\frac{1}{2}$ d. and 3s. 1 $\frac{3}{4}$ d. for Upriver and Islands respectively. America has again bought considerable quantities of old fine on this market, and, with the comparatively small stocks in New York and small receipts in Manáos, will probably be a still further buyer in the near future. We can only repeat what we said last month, that about 3s. 4d. is not a high price. Reports up to the present predict a shortage in the crop, owing to the Acre revolution and financial difficulties. Should this prove correct, taking the shortage of good medium grades into account, manufacturers would, we think, do well not to entirely neglect present prices.

MARIUS & LEVY, crude rubber merchants, close their Liverpool house on this date, and will conduct their business hereafter through their Paris house, 6, rue Martell, and their various branches on the Amazon.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The rubber market has been very firm for a month past. At the inscription sale of November 28, when 300 tons were exposed and sold, the advance on valuations averaged 5 $\frac{1}{2}$ per cent. Among the principal lots were:

	Valuation.	Sold at.
29 tons Upper Congo Aruwimi.....francs	6	6.80
39 " Lopori I.....	6 75	7.02 $\frac{1}{2}$ -7.10
21 " Uelé.....	6.32 $\frac{1}{2}$	6.62 $\frac{1}{2}$
59 " Mongalla.....	6 50	6 95
20 " Batouri.....	6.50	6.72 $\frac{1}{2}$
18 " Kassai Loanda.....	6.65	6.75-6 80

At the sale on December 16, when 178 tons were offered and sold, there was good competition at very full prices. The United States, as well as England and the Continent, had sent orders at high figures, and the advance on the November sale amounted to 5 or 6 per cent., or 10 or 12 per cent. on brokers' estimation, as the latter had been made up before the November sale. The best prices were paid for Upper Congo sorts, namely:

	Valuation.	Sold at.
20 tons Aruwimi.....francs	7.17 $\frac{1}{2}$	6.15
30 " Upper Congo balls.....	7 77 $\frac{1}{2}$	7.10
12 " Upper Congo small strips.....	7.40	6 35
20 " Uelé.....	7.40	6.50
14 " Mongalla.....	7 57 $\frac{1}{2}$	6 40

Importers have decided to hold small weekly sales by inscription every Friday, besides the regular monthly sales, which will be held as heretofore. Next Friday's sale (December 19) will include a fine lot of 62 tons Lopori I, estimated at 7.70 francs per kilogram.

C. SCHMID & CO.

Antwerp, December 16, 1902.

ANTWERP RUBBER STATISTICS FOR NOVEMBER.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Oct. 31.....kilos	350,138	266,105	909,047	148,738	234,651
Arrivals in November	235,231	683,521	473,404	150,196	211,776
Congo sorts.....	201,172	600,897	472,213	120,127	192,577
Other sorts.....	34,059	82,624	21,189	30,069	19,199
Aggregating.....	535,369	949,626	1,382,451	298,934	446,427
Sales in November	399,408	106,325	317,805	119,156	176,112
Stocks, Nov. 30.....	185,961	843,301	1,064,646	179,778	270,315
Arrivals since Jan. 1	4,604,749	5,644,282	5,527,903	6,833,529	1,793,722
Congo sorts.....	4,337,804	5,514,931	4,750,277	6,011,717	1,547,634
Other sorts.....	266,945	129,351	777,626	821,812	246,088
Sales since Jan. 1.....	4,833,497	5,414,931	4,755,245	3,167,091	1,617,870

RUBBER ARRIVALS AT ANTWERP.

NOV. 26.—By the *Philippeville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) kilos	183,000
Do.....(Comite Special Katanga)	2,800
Do.....(Société Anversoise)	61,000
Do.....(Société Isanghi)	12,054
Do.....(Cie. du Kassai)	71,000
Société A B I R.....	73,000
Comptoir Commercial Congolais.....	22,100
Société Equatoriale Congolaise (Société L'Isanghi).....	9,400
W. Mallinckrodt & Co.....(Alimatenne)	5,500
Charles Dethier.....(La Haute Sangha)	4,000
Do.....(Cie. de la M'Poko)	2,000
Société Coloniale Anversoise.....(Est du Kwango)	9,146
Do.....(Cie. de Lomami)	10,000
Société Coloniale du Baniembe.....	1,100
M. S. Cols.....(Société L'Isanghi)	600
Do.....(Cie. Bruxelloise du Haut Congo)	6,000
Société Coloniale Anversoise.....(Société La Lulonga)	10,000
Do.....	1,243
Do.....	2,000
Do.....(Belge du Haut Congo)	38,000
Do.....(Süd Kamerun)	2,500
Cie. Commerciale des Colonies (Cie. Française du Congo).....	350 537,823

IMPORTS FROM PARÁ AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

December 1.—By the steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total
Reimers & Co.....	105,900	71,400	41,800	.....	219,100
New York Commercial Co.....	103,000	14,900	22,900	.....	140,800
A. T. Morse & Co.....	49,400	12,700	60,800	2,000	124,900
United States Rubber Co.....	22,500	2,600	73,900	.....	99,000
William Wright & Co.....	15,400	3,200	35,100	.....	53,700
Edmund Reeks & Co.....	21,100	2,700	6,000	.....	29,800
Boston Rubber Shoe Co.....	.....	.....	11,400	.....	11,400
H. A. Gould & Co.....	4,700	300	1,900	.....	6,900
Kramisch & Co.....	.....	.....	5,100	.....	5,100

Total..... 322,000 107,800 258,900 2,000= 690,700

December 12.—By the steamer *Maranhense*, from Manáos and Pará:

New York Commercial Co.....	194,200	24,700	67,300	.....	286,200
A. T. Morse & Co.....	64,500	7,500	119,300	.....	191,300
Edmund Reeks & Co.....	77,200	13,800	10,100	.....	101,100
Reimers & Co.....	54,600	9,300	23,000	.....	86,900
United States Rubber Co.....	23,900	1,900	39,200	2,100	67,100
Boston Rubber Shoe Co.....	.....	.....	11,400	.....	11,400
William Wright & Co.....	20,500	2,100	2,400	.....	25,000
H. A. Gould & Co.....	5,400	300	600	.....	6,300
Kramisch & Co.....	.....	.....	3,700	.....	3,700

Total..... 440,600 59,600 277,000 2,100= 779,300

December 19.—By the steamer *Hilary*, from Manáos and Pará:

A. T. Morse & Co.....	95,100	22,500	81,400	.....	199,000
New York Commercial Co.....	92,000	21,000	16,300	.....	129,300
Reimers & Co.....	70,000	6,800	25,300	.....	102,100
William Wright & Co.....	8,700	700	49,800	3,600	62,800
United States Rubber Co.....	.....	.....	45,500	2,400	47,900
Boston Rubber Shoe Co.....	.....	.....	11,400	.....	11,400

Hagemeyer & Brunn	6,700	2,000	4,000	12,700
Lawrence Johnson & Co.	7,400	2,000	700	10,100
L. Hagenars & Co.	5,200	2,100		7,300
Edmund Reeks & Co.		2,200		2,200
Total	285,100	55,000	238,700	584,800

A. T. Morse & Co.	45,100	7,000	29,000	82,100
Edmund Reeks & Co.	24,500	5,900	7,500	38,900
United States Rubber Co.		29,700	6,700	36,400
Boston Rubber Shoe Co.		11,400		11,400
William Wright & Co.		23,400		23,400
Hagemeyer & Brunn	8,400	2,700	1,700	12,800

December 24.—By the steamer *Cearense* from Manáos and Pará:

Reimers & Co.	94,200	28,600	79,100	201,900
New York Commercial Co.	50,000	18,300	32,300	100,600

Total..... 222,200 63,500 214,200 7,500= 507,400

[NOTE.—The steamer *Basil* from Pará is due at New York on January 2 with 3.0 tons of rubber.]

PARA RUBBER VIA EUROPE.

NOV. 24.—By the <i>Etruria</i> =Liverpool:		POUNDS.
Reimers & Co. (Fine)	74,200	
Reimers & Co. (Coarse)	2,700	
George A. Alden & Co. (Fine)	66,500	
A. T. Morse & Co. (Fine)	5,000	108,200
NOV. 25.—By the <i>Alliance</i> =Mollendo:		
J. M. Parr's Sons (Fine)	18,700	
J. M. Parr's Sons (Coarse)	2,000	50,700
NOV. 28.—By the <i>Colt</i> =Liverpool:		
Reimers & Co. (Fine)		101,000
DEC. 1.—By the <i>Campania</i> =Liverpool:		
George A. Alden & Co. (Fine)	28,500	
George A. Alden & Co. (Coarse)	4,000	32,500
DEC. 2.—By the <i>La Champagne</i> =Havre:		
A. T. Morse & Co. (Fine)		10,000
DEC. 3.—By the <i>Financ</i> =Mollendo:		
New York Commercial Co. (Fine)	13,000	
New York Commercial Co. (Coarse)	1,500	14,500
DEC. 5.—By the <i>Tulonic</i> =Liverpool:		
Reimers & Co. (Fine)	28,000	
Reimers & Co. (Coarse)	8,500	
A. T. Morse & Co. (Fine)	12,800	
William Wright & Co. (Fine)	4,500	
George A. Alden & Co. (Fine)	2,000	55,800
DEC. 9.—By the <i>Seppurua</i> =Mollendo:		
New York Commercial Co. (Fine)	5,000	
DEC. 15.—By the <i>Lucania</i> =Liverpool:		
Reimers & Co. (Fine)	45,000	
DEC. 15.—By the <i>Munich</i> =London:		
Reimers & Co. (Fine)	25,000	
DEC. 16.—By the <i>City of Washington</i> =Mollendo:		
J. M. Parr's Sons (Fine)	4,800	
DEC. 22.—By the <i>Cymric</i> =Liverpool:		
William Wright & Co. (Fine)	15,000	
Reimers & Co. (Fine)	11,000	
George A. Alden & Co. (Fine)	3,500	29,500
DEC. 22.—By the <i>Etruria</i> =Liverpool:		
George A. Alden & Co. (Fine)	52,000	
Reimers & Co. (Fine)	6,000	58,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

NOV. 24.—By the <i>Etruria</i> =Liverpool:		POUNDS.
Reimers & Co.	6,700	
NOV. 25.—By the <i>Alliance</i> =Colon:		
Lawrence Johnson & Co.	18,500	
Mecke & Co.	10,500	
Kunhardt & Co.	8,800	
Hirzel, Feltman & Co.	8,500	
American Trading Co.	6,300	
A. Santos & Co.	5,800	
Roldan & Van Sickle	3,000	
G. Amsinck & Co.	2,400	
Dumarest & Co.	2,400	
M. A. de Leon	1,800	
Eggers & Heinlein	1,500	
Ascensio & Cossio	1,000	
E. B. Strout	1,000	
Isaac Brandon & Bros.	1,200	
L. N. Chemedlin & Co.	1,000	
Silva, Bussenius & Co.	600	
W. R. Grace & Co.	600	76,800
NOV. 28.—By the <i>Terence</i> =Bahia:		
J. H. Rossbach & Bros.	14,500	
DEC. 3.—By the <i>Financ</i> =Colon:		
Hirzel, Feltman & Co.	7,000	
Lawrence Johnson & Co.	700	7,700
DEC. 2.—By the <i>Valencia</i> =Greytown:		
E. B. Strout	6,500	
A. D. Straus & Co.	3,000	
G. Amsinck & Co.	800	
Jimenez & Escobar	600	
Lawrence Johnson & Co.	500	
Heirapolis & Co.	500	
Kunhardt & Co.	200	12,100

CENTRALS—Continued.

DEC. 8.—By the <i>Monterey</i> =Mexico:		
Fred. Probst & Co.	3,500	
H. Marquardt & Co.	1,500	
Harburger & Stark	1,500	
E. Stelger & Co.	1,600	
Theband Brothers	700	
Parraga Bros.	1,200	10,000
DEC. 9.—By the <i>Seppurua</i> =Colon:		
Hirzel, Feltman & Co.	17,000	
G. Amsinck & Co.	5,400	
Lawrence Johnson & Co.	4,800	
A. Santos & Co.	3,600	
Isaac Brandon & Bros.	2,500	
Andreas & Co.	1,900	
Dumarest & Co.	1,200	
Roldan & Van Sickle	800	
Lazord Freres	600	
L. N. Chemedlin & Co.	600	
Harburger & Stark	600	39,300
DEC. 9.—By the <i>Louisiana</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	4,200	
A. T. Morse & Co.	2,500	6,700
DEC. 10.—By the <i>Alma</i> =Cathagena, etc.:		
Guterman, Rosenfeld & Co.	1,500	
Lawrence Johnson & Co.	500	
Kunhardt & Co.	200	2,400
DEC. 12.—By the <i>Queen Prince</i> =Pernambuco:		
Eggers & Heinlein	7,000	
DEC. 12.—By the <i>El Paso</i> =New Orleans:		
A. T. Morse & Co.	3,000	
DEC. 15.—By the <i>Patriet</i> =Hamburg:		
George A. Alden & Co.	3,400	
Reimers & Co.	1,600	4,000
DEC. 16.—By the <i>City of Washington</i> =Colon:		
Hirzel, Feltman & Co.	7,000	
American Trading Co.	1,100	
L. N. Chemedlin & Co.	1,000	9,100
DEC. 18.—By the <i>Sulphur Prince</i> =Bahia:		
J. H. Rossbach & Bros.	2,300	
DEC. 17.—By the <i>Allegany</i> =Greytown:		
A. D. Straus & Co.	2,500	
G. Amsinck & Co.	3,600	
E. B. Strout	2,600	
Andreas & Co.	700	
Lawrence Johnson & Co.	1,200	
United Fruit Co.	1,200	
Isaac Brandon & Bros.	1,500	
A. S. Lascellas & Co.	1,200	13,300
DEC. 20.—By the <i>Esperanza</i> =Mexico:		
Graham, Hinkley & Co.	1,000	
Fred. Probst & Co.	7,000	
E. Stelger & Co.	500	
For Hamburg	2,000	1,500
DEC. 22.—By the <i>Byron</i> =Bahia:		
J. H. Rossbach & Bros.	5,000	
DEC. 22.—By the <i>Comus</i> =New Orleans:		
A. T. Morse & Co.	1,200	
Lawrence Johnson & Co.	1,000	2,200

AFRICANS.

NOV. 24.—By the <i>Etruria</i> =Liverpool:		POUNDS.
H. A. Gould & Co.	18,000	
George A. Alden & Co.	8,500	
A. T. Morse & Co.	4,500	31,000
NOV. 24.—By the <i>Potsdam</i> =Rotterdam:		
A. T. Morse & Co.	11,500	
NOV. 28.—By the <i>Pennsylvania</i> =Hamburg:		
Reimers & Co.	33,000	
George A. Alden & Co.	47,000	
Otto Meyer	15,400	
Henry A. Gould & Co.	15,000	
A. T. Morse & Co.	11,000	
Earle Brothers	2,600	123,000
NOV. 28.—By the <i>Colt</i> =Liverpool:		
Reimers & Co.	5,000	
George A. Alden & Co.	3,000	
William Wright & Co.	1,500	9,500

AFRICANS—Continued.

DEC. 1.—By the <i>Campania</i> =Liverpool:		
George A. Alden & Co.	23,000	
Otto Meyer	14,000	
Joseph Cantor	8,000	
A. T. Morse & Co.	5,000	50,000
DEC. 4.—By the <i>Zeland</i> =Antwerp:		
Reimers & Co.		31,100
DEC. 5.—By the <i>Tulonic</i> =Liverpool:		
Reimers & Co.	18,500	
United States Rubber Co.	14,000	
George A. Alden & Co.	14,000	46,500
DEC. 8.—By the <i>Umbria</i> =Liverpool:		
Joseph Cantor	11,500	
Robinson & Tallman	5,000	16,500
DEC. 8.—By the <i>Deutschland</i> =Hamburg:		
A. T. Morse & Co.	24,000	
DEC. 10.—By the <i>Finland</i> =Antwerp:		
A. T. Morse & Co.	25,000	
DEC. 11.—By the <i>Bonic</i> =Liverpool:		
George A. Alden & Co.	25,000	
DEC. 11.—By the <i>Oceanic</i> =Liverpool:		
United States Rubber Co.	14,000	
DEC. 15.—By the <i>Patricia</i> =Hamburg:		
A. T. Morse & Co.	25,000	
Otto Meyer	30,000	
Reimers & Co.	18,000	73,000
DEC. 15.—By the <i>Lucania</i> =Liverpool:		
Reimers & Co.	20,000	
United States Rubber Co.	9,000	
Otto Meyer	4,500	
Joseph Cantor	5,000	45,000
DEC. 17.—By the <i>Vaderland</i> =Antwerp:		
Joseph Cantor	23,000	
Reimers & Co.	26,000	
William Wright & Co.	15,000	
George A. Alden & Co. (Boston)	70,000	134,000
DEC. 17.—By the <i>Blucher</i> =Hamburg:		
A. T. Morse & Co.	7,500	
Otto Meyer	6,500	
George A. Alden & Co.	5,300	19,000
DEC. 22.—By the <i>Cymric</i> =Liverpool:		
George A. Alden & Co.	12,000	
Reimers & Co.	8,000	20,000
DEC. 22.—By the <i>Etruria</i> =Liverpool:		
A. T. Morse & Co.	30,000	
Reimers & Co.	15,000	
H. A. Gould & Co.	13,000	
George A. Alden & Co.	11,000	
Otto Meyer	8,000	74,000
DEC. 22.—By the <i>St. Louis</i> =London:		
Reimers & Co.	6,500	
EAST INDIAN.		POUNDS.
NOV. 15.—By the <i>Satsuma</i> =Singapore:		
Otto Meyer	11,500	
P. T. Betts	12,500	24,000
NOV. 24.—By the <i>Minchaha</i> =London:		
A. T. Morse & Co.	5,500	
P. T. Betts	1,500	7,000
DEC. 5.—By the <i>Aflon</i> =Singapore:		
Windmuller & Reolker		9,000
DEC. 8.—By the <i>Philadelphia</i> =London:		
Reimers & Co.	3,000	
Earle Brothers	2,000	5,000
DEC. 18.—By the <i>Richmond Castle</i> =Singapore:		
William Wright & Co.		5,500
PONTIANAK.		
NOV. 20.—By the <i>Heathburn</i> =Singapore:		
Reimers & Co.	175,000	
Robert Brans & Co.	250,000	
P. T. Betts	25,000	450,000
DEC. 10.—By the <i>Hillgren</i> =Singapore:		
William Wright & Co.		200,000

EAST INDIANS—Continued.

Dec. 18.—By the <i>Richmond Castle</i> =Singapore:	
Robert Branss & Co.	175,000
William Wright & Co.	110,000
J. H. Reeknagel & Co.	110,000
Reimers & Co.	8,000
George A. Alden & Co.	45,000 520,000

Dec. 22.—By the <i>Iran</i> =Singapore:	
Robert Branss & Co.	275,000

GUTTA-PERCHA AND BALATA.

Nov. 20.—By the <i>Heathburn</i> =Singapore:	
P. T. Betts.	20,000
George A. Alden & Co.	1,500 21,500
Nov. 20.—By the <i>Philadelphian</i> =London:	
Kramlich & Co.	9,000
Dec. 18.—By the <i>Richmond Castle</i> =Singapore:	
Robert Branss & Co.	11,000
Reimers & Co.	2,000 13,000
Dec. 22.—By the <i>Iran</i> =Singapore:	
Robert Branss & Co.	10,000

BALATA.

Nov. 24.—By the <i>Potsdam</i> =Rotterdam:	
George A. Alden & Co.	11,500
Dec. 15.—By the <i>St. Paul</i> =London:	
H. A. Gould & Co.	1,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—NOVEMBER.

Imports:	POUNDS.	VAL. UF.
India-rubber.	4,517,675	\$2,289,561
Gutta-percha.	6,681	1,034
Gutta-jelutong (Pontianak) ..	1,241,660	28,399
Total.	5,765,965	\$2,421,394
Exports:		
India-rubber.	38,588	\$20,946
Reclaimed rubber.	132,932	16,686
Rubber Scrap Imported. ..	1,816,436	\$117,873

BOSTON ARRIVALS.

	POUNDS
Nov. 3.—By the <i>Michigan</i> =Liverpool:	
Reimers & Co.—Caucho.	11,959
Nov. 5.—By the <i>De Roman</i> =Liverpool:	
George A. Alden & Co.—African.	12,116
Nov. 11.—By the <i>Patricia</i> =Hamburg:	
Otto Meyer—African.	17,772
[Included in arrivals at New York by the <i>Patricia</i> =Hamburg, Oct. 31.]	
Nov. 12.—By the <i>Wimredon</i> =Liverpool:	
George A. Alden & Co.—African.	1,653
Nov. 13.—By the <i>Iran</i> =Liverpool:	
Reimers & Co.—African.	4,741
Nov. 25.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.—African.	114,926
[Included in arrivals at New York by the <i>Vaderland</i> , Nov. 18.]	
Total.	162,277
[Value, \$82,815]	

NOVEMBER EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Prusse & Co.	63,580	12,759	26,906	—	103,230	91,970	4,250	21,580	5,446	123,246	226,476
Frank da Costa & Co.	61,524	5,658	169,893	5,100	242,205	87,030	11,750	57,619	—	156,399	398,604
Adelbert H. Alden.	117,320	17,120	72,030	—	206,470	112,570	15,760	38,080	1,331	167,741	374,211
Singlehurst, Brocklehurst & Co.	—	—	1,007	—	1,007	21,133	1,354	4,103	3,173	29,743	30,750
Neale & Staats.	17,340	1,020	72,320	—	90,680	24,031	2,381	5,527	7,754	39,697	130,377
Deris Crouan & Co.	42,355	4,307	47,490	—	94,152	57,612	5,671	13,291	—	76,074	170,826
B. A. Antunes & Co.	—	—	—	—	—	6,400	1,470	857	—	8,757	8,757
Pires, Teixeira & Co.	—	—	—	—	—	8,954	—	1,172	—	10,126	10,126
Sundry small shippers.	—	—	—	—	—	6,710	—	1,706	—	8,416	8,416
Direct from Iquitos.	—	—	—	—	—	105,713	5,323	32,936	84,636	228,608	228,608
Direct from Itacoatiara.	—	—	—	—	—	1,902	—	579	91	2,572	2,572
Direct from Manaos.	406,814	110,017	84,271	1,080	603,082	290,440	69,865	53,813	6,844	420,971	1,024,075
Total for November.	708,933	150,902	473,911	7,080	1,340,826	814,474	117,803	231,393	100,280	1,272,950	2,613,776
Total, July-October.	1,335,436	319,879	1,178,039	43,756	2,877,100	2,330,497	352,936	628,770	333,429	3,645,632	6,522,732
TOTAL, CROP YEAR.	2,044,369	470,781	1,651,940	50,926	4,217,926	3,144,971	470,739	860,163	442,709	4,918,582	9,136,508

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902.	3,679,748	279,326	3,400,422	October, 1902.	3,787,280	3,056,144	731,136
January-September.	37,610,569	2,537,333	35,073,236	January-September.	34,992,496	23,040,192	11,952,304
Ten months, 1902.	41,290,317	2,816,659	38,473,658	Ten months, 1902.	38,779,776	26,096,336	12,683,440
Ten months, 1901.	45,120,533	3,250,775	41,869,763	Ten months, 1901.	42,992,768	27,125,280	15,867,468
Ten months, 1900.	40,260,700	3,218,067	37,042,633	Ten months, 1900.	46,291,645	28,022,176	21,269,472
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902.	2,712,820	1,274,680	1,438,140	October, 1902.	116,160	24,780	91,380
January-September.	24,828,100	10,200,960	14,627,140	January-September.	1,046,540	82,580	963,960
Ten months, 1902.	27,540,920	11,475,640	16,065,280	Ten months, 1902.	1,162,700	107,360	1,055,340
Ten months, 1901.	23,818,360	8,902,520	14,915,840	Ten months, 1901.	1,250,920	189,640	1,061,280
Ten months, 1900.	25,021,400	8,699,680	16,321,720	Ten months, 1900.	1,260,600	—	—
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902.	786,060	776,380	9,680	October, 1902.	181,940	1,100	180,840
January-September.	12,490,940	7,549,960	4,940,980	January-September.	1,997,380	11,220	1,986,160
Ten months, 1902.	13,277,000	8,326,340	4,950,660	Ten months, 1902.	2,179,320	12,320	2,167,000
Ten months, 1901.	13,593,300	8,601,120	4,992,180	Ten months, 1901.	2,207,480	25,080	2,182,400
Ten months, 1900.	13,687,080	8,686,260	5,000,820	Ten months, 1900.	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.



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TRANSATLANTIC WIRELESS TELEGRAPHY.

MARCONI'S recent feats in sending wireless messages across the big pond may be considered as a demonstration of the possibility of commercial competition with the cables, but they are still far from settling the result of such competition. To those who followed the results obtained during the long cruise of the *Carlo Alberto* last summer, the great Italian's latest exploits have brought little surprise, but their practical significance is quite another matter. It was found last summer that the long distance feats were far from easy of accomplishment, and the famous message to the king of Italy sent from Poldhu and received near Spezzia was pounded into the ether for two days or more at frequent intervals before it was finally picked up. And nobody yet knows just how long it took to get through the messages from Cape Breton and Cape Cod to the station at Poldhu. Now the doubt thus raised may mean much or little. If the difficulty is simply lack of power in the sending apparatus, or of sensitiveness in the receiving apparatus, it is likely to be quickly overcome, while if produced by adverse meteorological conditions it may persist indefinitely. Weather, in the ordinary sense of the word, appears not to interfere with wireless telegraphy, but the same immunity cannot be assumed in the case of great local differences in the electrical condition of the upper atmosphere. It is certain that wireless telegraphy has scored some wonderful successes, but it has also scored some dismal failures, as in the attempt of the Marconi people to undertake wireless work for the United States signal corps during the maneuvers in Long Island sound last summer.

Whatever may prove to be the cause of the troubles which have been experienced, it seems certain that syntonism working, on which the large commercial future of the system depends, has not yet been reduced to practical form. We hear much of what is about to be done in this line, but results are wanting. Without syntonism very few stations can simultaneously engage in long distance work, and while in theory syntonism is quite possible, in practice it may prove to be enormously difficult to secure and maintain. Even if secured, the etheric lines can be very easily tapped, as the receiver at any point is capable of being tuned to catch the messages, so that it is safe to say that sending in code will be necessary to secrecy. This is quite customary in cabling, and is not a serious matter save in certain classes of press messages. A graver difficulty lies in the speed of sending. With the large amount of energy which is now and probably always will be necessary in long distance wireless telegraphy, fast sending is extremely troublesome. We do not know the speed attained in the recent work, which is wrapped in a fog of secrecy, but the messages sent last summer to the *Carlo Alberto* are known to have been sent at a rate of less than five words per minute. Of course we are now only at the threshold of wireless telegraphy, and it is somewhat rash to predict its limitations, but we are disposed to think that the cable companies will not have to shut up shop for a long time to come. We earnestly hope that wireless telegraphy will score a commercial suc-

cess, for even if it prove inconvenient for long distances, it is a valuable addition to the world's means of communication, and as such should be welcomed.

As regards its effect on the business which is always our nearest interest, we have no fears. If the Marconi system provokes severe competition with cables, business will be better rather than worse. Competition is sometimes unpleasant, but it is immensely productive of improved methods and apparatus. We know well how the art of cable making has progressed, but we feel certain that between the cable of the present and the cable of the future there is a prodigious gap. Some day fast automatic sending will be in regular use on long cables, and the livelier the competition the sooner that day will come. Old and inefficient cables will be replaced by better ones, and all the skill of the cable builder will be called into play to hold up the cable end of the fight. With increased cable efficiency will come lower rates, and an enormous increase in the volume of business, demanding steadily larger facilities. Twenty years ago people were predicting that the telephone would soon make an end of the telegraph business, but on the contrary the telegraph service has grown better and more extensive year by year. We are now facing similar conditions with respect to wireless telegraphy and cables. The former is not one whit more startling and revolutionary than the telephone. It shares with the telephone the material disadvantages of sensitiveness to small disturbances and lack of secrecy and has not the compensation of great speed of communication. We believe that wireless telegraphy will find for itself a sphere of great and permanent usefulness, but that it will push the cable to the wall seems far from likely. There is room enough for both systems in the world's work, and so far as the insulation business is concerned, it has directly or indirectly been the gainer by every new application of electricity to the service of man.

AUTOMOBILES AND TIRES.

NOT only has the automobile proved its great utility in America, for purposes of pleasure and business, but the success attained by manufacturers here renders it no longer necessary to go abroad for really good machines. The recent notable exhibition of the new vehicles in New York alone afforded evidence of a widespread popular interest in automobilism that should go far toward stimulating the new industry in the United States.

The demand has begun on a large scale for motors as pleasure vehicles, in the ordinary sense; for touring purposes, a new interest on this side of the Atlantic; for racing, a feature which is certain to be promoted largely in a country so generous as this in the encouragement of sports; and for the manifold commercial uses for which a field appears open in large and small cities alike. The automobile has been found desirable for these various purposes, its use has been proved economical for many of them, and as for the purposes for which only the well-to-do can afford to own them, this class happens to be so large as to make a good demand possible.

Nor is the interest in the new vehicles to be regarded as a mere fad, or passing fancy. The automobile possesses innumerable advantages in comparison with the bicycle, for instance, to fit it for a permanent place in the affairs of daily life, and the bicycle has by no means been retired from trade, even though the widespread cycling craze of a few years ago has passed. The automobile trade seems founded upon a solid basis than was the bicycle interest at the outset, and it appeals to a more substantial, more serious, and more varied popular interest. It may be idle to talk about the disappearance of the horse; doubtless there will always be room for both horses and motor vehicles. But for many purposes the self-propelling vehicles will prove superior to horse-drawn ones, as was the case when the locomotive displaced the old stage coach, and later when electricity drove horse cars from city streets.

The interest of this important new development to the India-rubber trade lies in the necessity for resilient tires for every motor vehicle used, of whatever type, and only the rubber manufacturer can supply these. The perfect rubber tire has not yet been produced, just as a perfect automobile has still to be made, but both vehicles and tires exist that perform their service well, under conditions that make their manufacture profitable.

It is perhaps not too much to say that no single industrial development in the past has ever opened so great a new field for the rubber industry as the coming of the automobile. At the same time, the extent and the character of the new demand for tires afford an incentive for effort in the direction of their improvement that may yet bring reputation and wealth to some rubber man in a degree not exceeded in the rubber trade hitherto.

THE CAPACITY OF THE RUBBER INDUSTRY.

WE have received a letter from a member of the trade, taking exception to a statement contained in the last *INDIA RUBBER WORLD*, in regard to the productive capacity of the industry being greater than the normal demand for rubber goods. Our correspondent adduces facts, such as the recent expansion of long and substantially established rubber factories, in support of his argument, and also intimates that the publication of such statements as the one referred to are calculated unnecessarily to discourage the growth of the industry. We may mention that through no other source has so much information become known regarding the extension of rubber factories and the erection of new factories within the past two or three years as in the columns of *THE INDIA RUBBER WORLD*. But at the same rate of growth it would not require many years to give the United States ten times the rubber factory capacity required to supply its actual needs.

There has been, since the period of financial depression referred to in our recent editorial, a very material growth in the demand for rubber goods, but the rate of growth was greater during a portion of the time than could reasonably be expected to remain permanent, as was pointed out in these pages, for the reason that the whole country was, so to speak, "short" of rubber goods, and railways

and industrial plants generally had to replenish their equipment of rubber supplies, besides which manufacturers, anticipating a marked improvement in business conditions, set to work to create larger stocks for their selling depôts. During the second year after the improvement in trade the American consumption of rubber experienced a falling off, but during 1902, as shown on another page of this paper, the consumption reached practically as large a figure as in the exceptional year referred to, and from present indications a still larger consumption may be expected during the present year.

The fact, however, that any one manufacturer or any dozen may show a rapid growth in business, year after year, does not prove that there is unlimited room for the establishment of other plants, and we should deem it unwise for a journal representative of the trade to encourage every man competent to establish a new factory to make haste to do so, simply because the conditions of the trade appear now to be unprecedentedly favorable. Those concerns which have so largely extended their facilities during the past two years have been building in part for the future, and not because all the space in the new buildings and all the capacity of their new machinery is actually needed at this moment.

But we fail to see why any of the above considerations should necessarily presage failure for a rubber factory just starting, or yet only under contemplation. The first rubber factory ever established had a greater capacity than was required by the then existing demand for rubber goods, and there has been no time since when the combined capacity of the rubber plants in this country, worked constantly to the limit, could not have supplied largely more goods than the people of the country were prepared to buy at prices high enough to yield a profit. No such consideration, however, deterred Mr. Converse from building up the Boston Rubber Shoe Co., or prevented the establishment of the Hood Rubber Co., or The B. F. Goodrich Co., or any number of other comparatively new concerns in the various lines of the industry whose success is universally admitted. There is always room in the rubber industry for the best man, with the best manufacturing and best selling methods, and an assured success for such a man, just as there is always a competency in the legal profession for exceptional ability, without regard to the number of briefless lawyers.

There are just as good chances in the rubber trade today as ever existed, but they depend upon the caliber of the man who essays to seize them, and not upon the number of people already in the field, or their capacity to make goods if they only had the orders.

A CENSUS OF RUBBER PLANTING.

ON another page will be found the first result of an inquiry, begun by THE INDIA RUBBER WORLD, into the extent of rubber planting. The details which appear in this issue relate alone to planting in Mexico, and are based upon details supplied to us in confidence over the signatures of officials of twenty-six incorporated com-

panies. Obviously we have not been in a position to verify the reports made to us, but as the companies referred to get no advertising out of this showing, it cannot be seen that they could have an object in making other than accurate reports. It is none the less proper to say that THE INDIA RUBBER WORLD accepts no responsibility for the figures given. From informal reports which have reached us, with regard both to other incorporated companies and the numerous private planters on a small scale in Mexico, it may be estimated that the extent of their planting has been 25 per cent. or possibly 50 per cent. as great as that of the companies reporting to us.

These reports cover the whole experience of the several companies making them, and it is evident, from the nature of things, that mistakes must have been made and that not all the planting that has been done will prove successful. At the same time, all the planters in Mexico have had an opportunity to benefit by the experience of the pioneers in the field, and it is noteworthy that almost without exception the companies upon which we report are making preparations for extending their work. For example, nineteen companies report having in nurseries twice as many seedlings as the whole twenty-six companies embraced in our summary have planted since going into business.

The reader will be struck by the fact that so many trees have been planted to the acre. It would seem that a permanent growth of more than 200 trees per acre would be excessive, and yet the average planting last year was three times this figure. When land has once been prepared, however, the planting of trees is not expensive, and the sooner the new rubber trees can be made to cover the ground so closely as to discourage any other growth, the sooner the planters will be relieved of any expense in keeping the ground clean. Besides which, most of the planters entertain the hope of being able by some means to extract enough rubber from the surplus trees, when the time comes for their removal, to offset to an important extent the cost of upkeep of the plantations to that time.

We hope later to present a fuller summary of the progress made in planting in Mexico, as well as in other countries. While our present figures are lacking in completeness, they doubtless will prove of interest in indicating that rubber planting already has attained such important dimensions. Besides, the details given as to the relative preferences for planting in sun or shade, and planting from nursery or at stake, now made public for the first time, should also be of interest.

THE DISCOVERY OF VULCANIZATION.

THE Lynn (Massachusetts) *Item* contributes to history one more version of the discovery of vulcanization by Charles Goodyear: "We have the story from an intimate friend of the inventor that it was his custom to carry about with him a piece of rubber that he had been experimenting with. He had it in his hand one cold morning, when he visited the village store, and to get some warmth he extended his hands to the stove, when the piece of rubber touched the hot metal. This gave to Goodyear the desired hint and he followed out the suggestion and attained his end."

CANADIAN RUBBER TRADE BANQUET.

THE successful annual meeting of the Rubber Footwear Manufacturers' and Jobbers' Associations at Montreal was fittingly terminated with a complimentary banquet tendered to the visiting delegates by the Montreal rubber shoe trade, at the Windsor Hotel, in that city, on the evening of January 20. Forty-five guests were seated around a horseshoe shaped table, in the "Ladies' Ordinary," which was tastefully decorated for the occasion. The menu card was an appreciated memento of the dinner. Appropriate proverbial couplets interspersed the toast list, which was embellished with laughable caricature sketches of prominent members of the manufacturing concerns and officers of the jobbers' association. The chair was occupied by Mr. James Robinson, with credit to himself and to the satisfaction of the guests.

The first toast—"Our King"—was responded to by a hearty rendering of the national anthem. The next toast—"Our Country"—was responded to by Mr. S. H. C. Miner, of the Granby Rubber Co., who contrasted the favorable conditions now existing in the rubber business in Canada with those of five years ago, the change having been brought about by the coming together in friendly discussion of competitors in business. Going back further, he reviewed the history of progress in the Dominion and gave expression to the most hopeful views with regard to its future. Canada, he said, occupies the central position of the British empire, and indications justify Canadians in thinking that in less than a century this country will be the most important part of that empire. Speaking of the United States, Mr. Miner said that formerly Canada had desired reciprocity with the republic, and her representatives had made many futile trips to Washington in this connection; now the States seem to be getting ready to ask for reciprocity.

The toast to the Rubber Shoe Manufacturers' Association was responded to by Messrs. H. D. Warren, of the Guttá Percha and Rubber Manufacturing Co., D. L. McGibbon, the new manager of the Canadian Rubber Co., and R. H. Greene of the Maple Leaf Rubber Co. The toast to the Rubber Jobbers' Association was responded to by Messrs. Alexander MacPherson, Charles Bonnick, J. J. Kilgour, and Arthur Congdon.

In response to the toast "American Rubber Interests" Mr. Charles H. Arnold, of New York, was asked to speak. He regretted the absence of Governor Bourn, whom he considered one of the best informed of rubber men, and who was personally associated with the late Charles Goodyear in some of his rubber experiments. He also regretted that owing to a death in Mr. Pearson's family, the editor of THE INDIA RUBBER WORLD found it impossible to be present. He agreed with Mr. Miner in regard to the possibilities of this country, having recently been across the continent with this gentleman, and could realize the extent of the Dominion's heritage.

Responding to the toast to the "Allied Trades," Mr. E. Tetrault, representing the shoe manufacturing trade, expressed the hope that the rubber manufacturers at their session had discussed the tariff question, and he thought that the rubber and leather shoe branches should aid each other in having the tariff on footwear raised. Responding to the same toast, Mr. James Acton, editor of the *Canadian Shoe and Leather Journal*, said that the retail shoe trade is now the only branch of the business in Canada without an association, but that there is a growing tendency among the retail trade to get into line in this respect. He stated that the *Journal* management had commenced in its columns an agitation for united action in the matter of regulating prices, and other matters of interest to the retailers.

After a song by Mr. Woodley an anonymous contribution was read by the Chairman, as follows:

THE JOBBER'S SOLILOQUY.

To cut, or not to cut; that is the question:
Whether it is better in the mind to suffer
The loss of orders and those old accounts,
Or to take arms against a sea of rumors
And by a discount end them. To cut, to break;
No more; and by that stroke to say we end
The heartache and the thousand daily shocks
Jobbers are heir to, 'tis a consummation
Devoutly to be wished. To cut, to break;
To break that dread agreement; aye, there's the rub.
For in that break what pangs may come
When we have forfeited our good hard cash
Must give us pause: There's the respect
That makes the plunge of so much danger rife.
Else who would bear theicks of traveling men,
Retailers' taunts, competitors' crooked ways,
Punching of goods and other measly fakes
The Patient Jobber on small margin takes,
When he himself might a hiatus make
With but a *discount*: Who would swallow dirt
And grunt and swear under such dire restraint
But that the dread of something afterwards—
That lost five hundred—puzzles the will
And makes us rather bear loss those ills we have
Than fly to others that we know not of.
Thus boodle does make *members* of us all,
And thus the bend of natural inclination
To give an extra "Five" or punch good "firsts."
To date ahead or monkey with the terms
With this regard finds its strong currents turn awry
And lost in dumb paralysis.

The remaining toasts, to "The Press," the health of the Chairman, and the "Wholesale Shoe Association," were appropriately responded to, after which the evening concluded with the singing of "Auld Lang Syne."

Among the letters of regret read at the banquet were two from the United States, from Henry C. Pearson, of THE INDIA RUBBER WORLD, and Augustus O. Bourn, president of the New England Rubber Club. Governor Bourn wrote: "I feel personally that I shall miss an opportunity which I may never have again, of meeting so large a number of the rubber boot and shoe jobbers of Canada. I feel a greater interest perhaps in that association from the fact that the first boot and shoe business of Canada was founded by my father, in Montreal, about fifty years ago. The firm of Brown, Hibbard and Bourn & Co. built the factory now owned by the Canadian Rubber Co., and I myself spent a few months in Montreal assisting my father, who had charge of establishing the business."

AMONG THE INVENTORS.

AN English patent (No. 15,058—1901) granted to J. E. Baxter relates to the manufacture of seamless rubber articles, such as balls or syringe bulbs, and also tire tubes, by dipping or building up rubber upon a core which may afterward be removed in a semi-liquid, plastic, or disintegrated state. A core molded from a mixture of 95 parts of Paris white and 5 parts of French chalk is mentioned, the same to be softened after the vulcanization of the goods by placing the whole in boiling water to soften the core.

No. 15,621—1901, granted to J. Thame relates to waterproof compositions for floor coverings or wall decorations, formed by mixing in certain proportions and under heat Pontianak gum (gutta-jelutong) with a binding material such as waste cotton or jute fiber, with the addition of a hardening substance, like zinc oxide, or a filling material, such as wood meal. To increase elasticity, Accra flake or oxidized oil may be added. The hot mixture may be passed through rolls to produce a plain or ornamented sheet, which may be dyed when cold, and a backing of paper or linen may be applied.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

ONE of the leading rubber clothing manufacturers in London, with whom I was recently in conversation, expressed the opinion that the state of depression experienced during the past year in this branch was not at all likely to prove evanescent. The position of affairs ruling ten years ago with regard to macintoshes for the million was not in his opinion ever likely to recur. The rapid means of transit now afforded in our large towns by the electric car was, he thought, one cause for the decline in the use of the macintosh, the rainproof garment having been found more generally serviceable for town use. The trade in high class sporting coats had not appreciably declined, he said, but this class of work only kept occupied the spreading machines of a limited number of firms whose reputation was securely founded. It certainly seems a somewhat curious and disquieting sign of the times to see goods exposed in retail rubber establishments bearing prominent labels to the effect that rubber does not enter into their composition. Of course it would not be much exceeding the limits of strict truth if a good many other so-called rubber goods of the day were likewise described, but then one hardly expects details of the sort to be exhibited under the signboard of the S-S and S-S rubber company. This decline of the macintosh will naturally affect the British rubber manufacturer to a much greater extent than his competitors on the Continent or in America, as this country has had a home demand in the past far exceeding that of other nations where the rubber industry has established a firm footing. It would no doubt prove interesting to our readers to hear something about the trend of the rubber clothing trade in the United States.

A JOINT patent recently taken out by Messrs. Charles Macintosh & Co., Limited, and Mr. A. E. Walker, their sub manager, has for its subject what is really a novelty, which cannot exactly be said of everything issued from the patent office in connection with tires. It has been sought in this case to secure the channels through which the circumferential wires pass, from liability to split transversely, which object is satisfactorily attained by lining the holes with canvas or other strengthening material. And not only are the holes thus lined but the canvas is extended from one hole through the body of the rubber to the other hole, the mutual support thus obtained adding greatly to the value of the original conception. Undoubtedly great annoyance has been caused in the past through failure of the unprotected sides of the holes to resist sudden pressure, and this further proof of Mr. Walker's expert knowledge of matters relating to solid tires will certainly be appreciated by buyers thereof.

THE recently issued tender forms for the condemned stores of the general postoffice do not show the decline in the quantity of Gutta-percha on offer that has been predicted from the increased use of paper insulation. The amount of Gutta-percha on offer is 41 tons, and it is noticeable that the price per pound for sample lots is fixed at 4 shillings, instead of the 3 shillings which has figured in recent tender forms. I notice that included in the arrangements for the forthcoming visit of the Institution of Electrical Engineers to north Italy, in April, is a visit to the rubber and cable

works of Messrs. Pirelli & Co. (Milan). It has not been generally known of what the Bitite insulating material used so largely and successfully by the Callender Cable Co., of Erith Kent, consisted. It was supposed to be a natural bitumen of the Trinidad type; speculation, however, has now been rendered superfluous, as it is stated by Dr. C. O. Weber, in his recently issued volume on "The Chemistry of India-rubber," that it is composed of stearine pitch, which has undergone a sort of vulcanization with sulphur. With regard to these Callender cables, electricians responsible for house wiring seem to be somewhat afraid of introducing them indoors from their alleged inflammable nature. I cannot gather that house fires have been traced to this source, though there seem to be instances of fires in mains insulated with pitch and which have become overheated. I hear that the Liverpool Electric Cable Co., a firm of recent foundation, have attracted the favorable notice of buyers by the superior finish which their products show; a coat of varnish does not necessarily testify to inward value, but there is no doubt that an attractive appearance has a good deal to do with successful sales. W. T. Glover & Co., Limited, of Trafford Park, have issued a well got up diary for the year, with information of various sorts useful to station engineers. Despite the assurances of Sir William H. Preece and others that the Marconi system of wireless telegraphy can only have a limited application, there seems to be a growing fear amongst shareholders of the great cable companies that trouble is in store for them. The next few months will undoubtedly prove an anxious time, as it is felt that the full scope of the new system must shortly be clearly demonstrated.

MAJOR NATHAN, the governor of the Gold Coast Colony, has recently been in England and has had a good deal to say about its prospects. I have not seen his reports to the colonial office, these being more or less of a confidential nature, but a friend who has recently returned from employment out there tells me that the position of the rubber trade has largely engaged the governor's attention. Compared with the German-African possessions, there is very little government initiative in developing resources, it being considered the correct thing to leave all such initiative to the private trades. At present there seems room for improvement in the organization of the rubber industry. The falling off of exports in recent years from some of our West African possessions seems to be attributable not so much to the scarcity of labor as to the destruction of the trees in the coast districts. The Gold Coast rubber now has to come about an eight days journey through the bush, all having to be carried by the natives whose maximum load is about 100 pounds. The first railway in the colony is now being constructed through to Coomassie in Ashanti, and this will certainly tend to the development of the gold industry, if it does not also increase the output of rubber.

A CASE of similarity of title which undoubtedly tends to confusion seems to deserve a word of mention. Not long since this journal had a paragraph referring to the formation of the New York Wheel and Tyre Co. (New York) with a capital of \$150,000. With regard to this title I understand that the New York Wheel and Rubber Tyre Co., of 377, Kennington road, London, S. E., have lodged a protest, their title having been in existence for thir-

THE WATERPROOF TRADE.

IMPROVEMENT IN SOLID TIRES.

ELECTRICAL NOTES.

GOLD COAST RUBBER.

SIMILARITY OF TITLE

tee years. Of course it may be urged that the wording is not identical in each case, but the similarity is great enough to cause confusion among customers, especially as in the case of firms whose titles run to several words, there is a general disposition to use a contracted form. With regard to the Kennington firm, they are about to remove the rubber manufacturing part of their business to Bendon Valley, Wandsworth, where special mills have been erected and a large plant has been put down. The Kennington premises will be retained for the purposes of fitting tires to wheels and for keeping a stock of tires. Count de Nevers, it may be mentioned, is the sole proprietor of the Kennington firm, and has taken a prominent part in the development of the solid tire industry.

I HEARD some time ago that Dr. Weber had perfected a new arrangement for the recovery of naphtha used in spreading, and now the details are before me of the patent No. 16,919—1901, granted to C. O. Weber and Isidor Frankenburg, Limited. The actual percentage recovered of the solvent used is not given, but it has been stated to be very high; so high indeed as to excite a suspicion of exaggeration. However, I hope to be in a position to speak more definitely on this point shortly. In the meantime it may not be uninteresting to say a word or two regarding what has been done in the past in this way, though it must be confessed that as the experience of firms who have adopted recovery plants has been somewhat jealously kept from public knowledge, one cannot affect to write with a great degree of precision. Many years ago the Leyland company had a recovery plant as had also Moseley's; that of the former firm has been abandoned while Moseley's have adopted a newer design and are stated to be obtaining satisfactory results. The plant designed by Mr. J. B. Price for a prominent Manchester firm was not an unqualified success, and as far as my knowledge the only plant that has been really successful is that made by Messrs. Siddeley, engineers of Liverpool, who have paid special attention to the subject. There are now several of these plants in rubber works and in card-clothing factories, an average yield of 45 per cent. of the naphtha used being recovered. Of course in the absence of figures relative to working expenses, the statement of the yield of naphtha is not of great value, but I understand that in all cases Messrs. Siddeley's plant, as improved in late years, is working at a good profit. In some cases the naphtha as recovered is fit for use over again without further treatment, while in others it is taken back again for distillation by the tar distiller at a reduction of a penny or two per gallon on the contract price. This point as to the purity of the product is one that should engage the attention of those who propose adopting recovery plant, all the more as with the improvements of late years there is now no difficulty whatever in obtaining the naphtha pure enough for use over again at once. What with the low prices that have ruled for some time in regard to solvent naphtha, it cannot be said that the present is an ideal time to bring out a new recovery machine, nor can it be contended that the profits of waterproofers during the last year have been such as to cause them to contemplate an embarkation upon new capital expenditure with equanimity.

WITH regard to the advertisements of a recently started reclaimed rubber company, astute people in the trade are wondering how it is that such rubber can be advertised as free from oil substitutes and sulphur, seeing that these components, or at any rate the latter two, are so widely prevalent in the waste rubber of the day. I am not attempting any reply myself, but am merely voicing the expressions of incredulity which have fallen upon my ears.

What speculation I may have, however, allowed myself to indulge in seems to indicate that the advertisers have used an abbreviated form of expression and that the meaning they intend to convey is that none of the above mentioned materials are purposely added to their products. —With regard to recovered rubber generally, there seems to be far more of the black variety on offer than there is a market for. At the moment drab waste is rather in demand. Sometimes there is a rush on red waste and holders thereof can realize at a satisfactory profit, but as there is always the possibility of losses on other kinds at the same time the business cannot, in these days at least, be looked upon except as a risky and precarious one.

THE contrivance invented by Mr. H. Parsons, of London, to prevent side slip in motor car tires, has attracted special notice in the "society" as well as the technical press. It consists of two flexible wire hoops, one on either side of the wheel, the hoops being connected by steel chains passing zig-zag from one to the other around the tire. It will be possible to say something more fully about this invention when its capabilities have stood the tests to which they are about to be subjected.

MR. R. OPENSHAW has been appointed manager of the rubber works of Messrs. Capon Heaton & Co., Limited, of Stirchley near Birmingham. Mr. Openshaw has previously gained experience in the works of Charles Macintosh & Co., and George McLellan & Co. (Glasgow), and has also been connected with the Clipper Tyre Co. —The event of the closing month of the year has been the long-delayed appearance of Dr. C. O. Weber's volume on India-rubber. It will undoubtedly have a large circulation in the trade. —I notice that a section of the daily press is somewhat caustic about King Leopold's speech to the deputation of the Baptist Missionary Society. The opinion is expressed that a reduction of taxation on religious, scientific, and charitable institutions, though admirable in itself, would be more commendable if it was accompanied by reform in administration all round in the Congo Free State. The speech contained an interesting announcement to the effect that replanting of rubber trees is being regularly carried out in denuded areas. —Another publication relating incidentally to raw rubber which is being pretty widely read by the general public, is a volume by Mr. Perez Triana, entitled "Down the Orinoco in a Canoe." The account of the immense virgin forests of Pará rubber observed by the author is hardly likely to reassure investors in rubber plantations as to the value of their investments in the immediate future.

THIS company has been formed with a capital of £25,000 from the wreck of the Hyde Imperial Rubber Co., at Woodley, and circumstances indicate its having a successful career under the management of Mr. Dawes. The names on the directorate point to Preston capital being involved, to the exclusion of the Birmingham element which was so prominent in the defunct concern.

AMAZON STEAM NAVIGATION CO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The directors of the Amazon Steam Navigation Co., Limited, announced on November 12 that the company's contract has been extended to July 31, 1910, subject to the approval of the Brazilian federal congress, and they have now received a telegram stating that the congress has given its approval of same.

G. STREET & CO.

30, Cornhill, London, December 6, 1902.

RUBBER PLANTING AND EXPLOITATION.

SUMMARY OF PLANTING IN MEXICO.

IN answer to a circular letter sent by THE INDIA RUBBER WORLD to the various incorporated rubber planting companies now operating in Mexico, asking for details regarding their progress, to be held in confidence except for use in making up statements of totals, responses have been received from most of the companies that have actually begun planting. From a few substantial companies the desired details have not yet been received, and in a few other cases the statements have not been made in a form to permit of their use in the computations which follow. The returns which appear in the table of total planting, below, are supplied by twenty-six companies. Of the companies referred to, one was incorporated in 1897, two in 1899, three in 1900, nine in 1901, and two in 1902; regarding the other nine we are not informed. It will be seen that the companies are mainly new, and some have done very little of the planting contemplated. Two, however, state that they have finished planting.

The total number of trees planted by the twenty-six companies, by years, is reported as follows:

Planted, 1897.....	5,200	Planted, 1901.....	1,101,675
Planted, 1898	21,700	Planted, 1902.....	2,901,000
Planted, 1899.....	370,785		
Planted, 1900.....	952,742	Total.....	5,443,105

The total acreage reported is 11,117. The acreage cannot be presented by years in some cases, but by partially estimating, from the returns supplied, it appears that about 5300 acres were put into rubber in 1902. Thirteen of the reports, in which exact details appear, give the following average number of trees planted per acre in that year:

400	1000	820	800	2000
500	200	800	587	600
496		250		611

These thirteen companies report a total planting of 2,671,000 trees in 1902, on 4113 acres, or an average of 650 trees per acre. It will be understood, of course, that the practice is general of close planting, both to allow for failures, and with the idea of extracting some rubber from the surplus trees when they have grown so as to make their removal necessary.

While some of the companies have tried various methods of planting as regards shade, generally one plan has been adhered to in each case, and further planting, as a rule, will be done under the same method as in the past. The distribution of the total planting to date has been as follows:

Planted in the open.....	3,202,920 trees
Planted in the open and semi shade.....	1,117,000 "
Planted in semi shade.....	1,019,185 "
Planted in shade.....	4,000 "
Not stated.....	100,000 "

Total..... 5,443,105 trees

Ten companies planted in the open, two in the open and semi shade, eleven in semi shade, one in shade altogether, and two fail to report.

Nine companies planted from nurseries and at stake, twelve from nurseries principally, three at stake alone, and two fail to report.

In regard to transplanting from nurseries, and planting seeds at stake, while the practice of the different companies varies, in most cases the plan adopted in the past will be continued. The total planting has been distributed as follows:

From nursery and at stake.....	2,675,400 trees
From nurseries alone.....	1,095,705 "
At stake alone.....	372,000 "
Not stated.....	100,000 "

Total..... 4,443,105 trees

To give an idea of the extent of the preparations made for future planting, it may be mentioned that nineteen of the twenty-six companies reported having in nurseries at the end of the season a total of 11,462,000 young plants, in numbers ranging from 7000 to 2,000,000 each. Two companies reported no nurseries, having completed planting, and five made no report.

CHACAMAS PLANTATION CO.

[Plantation on the Rio Chacamas, department of Palenque, state of Chiapas, Mexico. Office: 100 Royal Insurance building, Chicago, Illinois.]

INCORPORATED June 22, 1902, under the laws of Illinois. The company own 5000 acres of land, the development of 1000 of which it is proposed to begin this year under the designation "Series No. 1." The principal planting is to be rubber (*Castilloa elastica*), though "short crops" will be planted at first, and attention may be given to sugar cane and fruits. The company's financial scheme embraces some novel features. They offer to the public fifty "development shares," or income certificates at \$5 each, amounting to \$250 per acre developed. Their contract with an investor is in the form of an option, on say 50 shares at \$5 each, to be paid for within fifty months. Upon each payment of \$5 the investor receives one share, and in case at any time he should cease making payments, the option will be held to have expired, but the investor will be in possession of all the shares for which he may have paid. In case of the death of any investor before the completion of all the payments provided for in his option, the remaining shares of the series will be issued to his heirs. The officers are: *Frank M. Luce*, car mileage auditor, Chicago and Northwestern railroad, president; *Richard Walsh*, of Walsh Boyle & Co., Chicago wholesale grocers, vice president; *Edward P. Skene*, general land commissioner, Illinois Central railroad, secretary; *George W. Speich*, of the American Trust and Savings Bank, treasurer; *F. R. McKinstry*, general manager. These gentlemen and six other business men of good standing in and near Chicago form the directorate. Mr. McKinstry and some of the directors were due to sail from New York on January 22 for the plantation, where it is planned this year to establish a nursery of 5 acres. C. E. Rickard is plantation manager.

JOLIET TROPICAL PLANTATION CO.

[Plantation at Tierra Blanca, state of Vera Cruz, Mexico. Office: Joliet, Illinois.]

INCORPORATED July 12, 1902, under the laws of Delaware; authorized capitalization \$360,000, in 1200 shares of \$300. The original holding of land was 1200 acres, but in December, 1902, an additional 2000 acres was purchased. These lands were acquired from Alfred Bishop Mason, of Chicago, who is president of the Vera Cruz and Pacific Railway Co., and is otherwise interested in Mexican development. It adjoins two extensive private rubber plantations—the "Yale," owned by Mr. Mason and conducted by his two nephews, Messrs. Trowbridge and Willis, and the "Esperanza," owned by two Englishmen, Messrs. Pearson and Leversley. This new plantation is the outgrowth of a club formed by 100 citizens of Joliet, with a view to investing in some rubber plantation, with the result that they determined to start a company of their own. The

officers are: *J. O. Burrett*, banker, president; *J. J. Allison*, school superintendent, and *George B. Carey*, merchant, vice-presidents; *T. A. Mason*, banker, treasurer; *J. F. Skeel*, clerk board of education, secretary; *James C. Dennis*, former street superintendent of Joliet, plantation manager. To investors are offered shares of capital stock at \$10 (par), to give them legal protection in the matters of ownership of the property and a voice in the management, and with each share an "income certificate," entitling the holder to his proportion in the net profits—the whole being sold for \$300, payable in installments, if preferred. It was reported on January 9 that about 900 shares had been taken, mostly by citizens of Joliet, many of whom had paid in full. One thousand acres of the company's lands are reported to be fine sugar lands, and most of the remainder excellent for rubber. Both crops will be planted, and, at the beginning, some "quick crops," besides which a company store will be maintained.

THE BACHAJON PLANTATION CO.

[Plantation on the río Tulijá, department of Palenque, state of Chiapas, Mexico. Office: Witherspoon building, Philadelphia.]

INCORPORATED in April, 1902, under the laws of Maine; authorized capital, \$100,000, which is said to be fully paid. The company own 6177 acres, in the valley of the Tulijá river, some 18 miles from the town of Salto de Agua, and connected by water transportation with Frontera, on the Mexican gulf. Six hundred acres have been surveyed for the first development work, to be planted in rubber (*Castilloa elastica*), 600 trees to the acre, with a view to thinning out later to 200 trees. "Contracts for deed" are offered for sale at \$200 per acre, cash, or, \$264 in installments. On July 1, 1910, the company propose, upon the surrender of these contracts, to make a deed, conveying to the contract holders an undivided ownership of the property purchased by them. Officers: *Horace Mitchell*, Kittery, Maine, president; *W. T. Atkinson*, Kansas City, Kansas, vice president; *E. B. Fletcher*, Philadelphia, secretary and treasurer and general manager. The company's plantation manager was due to sail from New York on January 15, to begin the work of active development.

PLANTATIONS LACOURT (CONGO FREE STATE).

[See THE INDIA RUBBER WORLD, November 1, 1901—page 45.]

THE Société Anonyme Plantations Lacourt, a Belgian enterprise founded in 1899, with 800,000 francs capital, to exploit rubber in the Congo Free State, have been able thus far to report very favorable results. A comparison is given here of their earnings for three years, "Gross" profits relating to the proceeds from trading in native rubber, and "Net" profits what remained after meeting the expenses of the company's plantations:

	Gross.	Net.
Year ending March 31, 1900 francs	413,882.08	384,732.91
Year ending March 31, 1901	215,886.97	94,833.56
Year ending March 31, 1902	300,249.09	167,037.44

The latest report of the administration devotes, as did that of last year, no little space to the planting work done by the company, particularly in rubber. Following is a comparison of the extent of the plantations on March 31 of each year:

	1901.	1902.
India rubber (<i>Landolphia</i> vines) acres	877	1137
Coffee	148	153
Cacao	7	12
Other crops	—	25
Total acres	1032	1327

From the former of the reports quoted it appeared that about 900 rubber vines were planted to the acre, with the idea of attaining a permanent growth of 800. At the same rate, the planting up to March last would have amounted to 1,037,000

vines. The practice of the company is to replant, in case of failures. At the end of the business year their nurseries contained 300,000 rubber plants, besides coffee, cacao, and tea. As the wild vines do not average more than 2 per acre, scattered through dense forests, the company anticipate a great advantage from having a growth of rubber concentrated to the extent suggested above.

During the year the discovery was made, on the Lacourt concession, of trees of the *Kickxia* species which yields rubber in Lagos. While much of the concession had not been explored, the hope was entertained that *Kickxia* trees would be found in abundance, to the great benefit of the company.—The concession of this company lies in the basin of the river Sankuru, an important tributary of the river Kassai, which in turn empties into the Congo. The latitude is about 4° south.

RUBBER PLANTING IN THE CONGO FREE STATE.

AN official decree dated January 5, 1899, required that companies collecting rubber under concessions from the state should plant annually not less than 150 new rubber trees or vines, for every ton of rubber collected during the year. A later decree, to take effect from January 1, 1903, provides that 500 such trees or vines shall be planted for each ton of rubber collected. In the annual review of the Antwerp rubber market for the past year issued by *Grisar & Co.*, it is stated that the operation of this law had resulted in the setting out of 410,000 rubber plants in 1899, of 500,000 in 1900, and 510,000 in 1901—a total of 1,420,000 for the three years. These decrees apply equally to the collection of rubber by employés and agents of the state, besides which there are other regulations for the planting of rubber under control of the forestry department, and it is estimated that in addition to the planting above referred to, 2,500,000 rubber plants had been set out on the public domain during the three years ending with 1901. These figures, added to the preceding, give a total of more than 3,900,000, to which must be added any planting done during 1903. It does not appear that these figures include the planting done by the Société Anonyme Plantations Lacourt, referred to elsewhere in this paper, and amounting up to March 31 last to more than 1,100,000, or an aggregate of planting in the Congo Free State thus far of about 5,000,000 trees, in addition to the figures for 1902, not yet available.

GUTTA-PERCHA AND RUBBER IN THE MALAY STATES.

THE policy, on the part of the authorities, of prohibiting the collection of Gutta-percha until better means have been devised for preventing destruction of the trees—mentioned in THE INDIA RUBBER WORLD, April 1, 1902 (page 211)—was maintained during 1901, for which year the official reports of the government have come to hand. The prohibition extended originally to the best species of Gutta-percha trees, known locally as "getah taban," but in the state of Pahang the collection of the inferior sorts of Gutta-percha is now prohibited as well. The result of this course is temporarily to deprive the government of a source of revenue from selling Gutta-percha privileges, but it is felt that, had this course not been adopted, the Gutta-percha trees would soon have disappeared.

In Negri Sembilan a Gutta percha reserve of 2000 acres has been formed at Senawang, which was stated last year to contain 18,000 plants and live Gutta-percha stumps. The report now under review says that the work of cleaning the reserve has been continued during the year, and that more than 30,000 plants and stumps have been located and are now under protection.

It is mentioned that in the state of Selangor, European planters, at the end of 1901, had under cultivation 14,661 acres, of

which 7487 acres were planted in "Pará rubber." In Perak the government gardens supplied Pará rubber seeds and seedlings extensively to private planters, and experiments were begun in the cultivation of *Castilloa* and some African rubber species. Mention is made of the tapping, in August, 1901, of a few Pará rubber trees 12 years old, which yielded an average of 4 pounds of rubber, and of *Ficus elastica* of the same age, which yielded an average of 10 pounds per tree. These reports throughout refer favorably to the progress in rubber planting and express the belief that it will prove very profitable if anything like present prices of rubber should be maintained.

CONSERVATIVE RUBBER PRODUCTION CO.

[Plantation at Ystti-ja, department of Palenque, state of Chiapas, Mexico. Office: 319 325 Parrott building, San Francisco, California.]

INCORPORATED October 26, 1901, under the laws of Arizona; capital \$1,200,000, in shares of \$200. The company own 6670 acres of land, on the Tulija river, acquired from the Mexican government in July, 1901. Rubber only is to be planted, 600 trees per acre, to be reduced later to 200. Shares are offered, to be paid for in monthly installments, or at reduced rates for cash. No income is estimated before the end of the fifth year. The officers—John Ballard, president; Dr. O. V. Sessions, vice president; Byron Gilman, treasurer; J. S. Cannon, secretary and general manager—have long been engaged successfully in business enterprises on the Pacific coast, and Mr. Cannon has had several years experience in developing rubber plantations in Mexico. E. W. Graves, plantation director, is an experienced horticulturist.

ORIZABA RUBBER PLANTATION CO.

[Plantation at El Salto, state of Chiapas, Mexico. Office: No. 215 Dearborn street, Chicago, Illinois.]

THE first number of the *Chiapas News*, a periodical published by this company, contains a portrait and sketch of their plantation manager, Dr George B. Abbott, a native of Dixon, Illinois, born in 1856. During six years he lived in Honduras, engaged in merchandising and tropical planting, and acquiring such knowledge of tropical labor problems as to fit him for such a position as he now holds.

RUBBER PLANTING IN THE STRAITS SETTLEMENTS.

THE *Tropical Agriculturist* (September, 1902) says: "A little while ago Mr. H. K. Rutherford pressed us to try and obtain statistics of the area planted in rubber in the Straits, etc. It is a difficult matter to do so, as there are so many different states and districts embraced in the Malay peninsula. But from the returns given in the Singapore and Straits' Directory for 1902, which has just reached us, we venture to compile the following figures, simply as a rough approximation:

DISTRICT.	Area under Rubber,
British North Borneo.....	About 100 acres.
Johore.....	About 200 acres.
Negri Sembilan.....	About 678 acres.
Perak.....	About 540 acres.
Province Wellesley.....	About 100 acres.
Selangor.....	About 2,926 acres.
Total ..	4,544

"This is against 3356 acres in Ceylon. But our local returns are far more to be relied on than the guesses we have applied to the estates in the Straits, etc. It should be the duty of the Selangor Planters' Association to collect reliable returns of the actual extent of rubber planted on each garden or estate and so to correct the figures which we venture to put forward above."—[The figures given in this paragraph for Negri Sembilan should be compared with the detailed statement for the same province which appeared in THE INDIA RUBBER WORLD of November 1, 1902 (page 57). That showed an acreage of 592 planted to rubber alone, and a total acreage of 4294

planted to rubber in combination with either coffee or cocoa-nuts.]

MEXICAN PLANTING NOTES.

MR. A. G. WEISS, of Charleston, Illinois, whose private rubber plantation in the state of Tabasco, Mexico, has been mentioned in these pages, is understood to be arranging to plant 400 acres more in rubber this year.

=Mr. C. M. Kendall's contract with the Isthmus Plantation Association of Mexico (Milwaukee, Wisconsin) having expired on January 1—its shares having been practically all sold—he is organizing a new company, to be called the Mexico Batavia Plantation Co. A partially developed plantation has been secured in the state of Oaxaca, Mexico, on which there is already a considerable acreage of *Castilloa elastica*, besides some Pará and Ceará rubber trees, which he reports to be doing well. Mr. Kendall's address is Wells building, Milwaukee.

RAILWAY THROUGH ANOTHER RUBBER FIELD.

A DECREE of the Portuguese government dated November 27, 1902, grants to Robert Williams, a British subject, a concession to build a railway 1400 kilometers [=870 miles] in length, from Lobito bay, on the Angola seaboard, to Katanga, on the Eastern frontier of the colony, where connection can be made with the Cape to Cairo system. The *concessionaire* is required to deposit £100,000 as a guarantee that he will form a company with £2,000,000 capital, with its head office at Lisbon, and complete the railway within eight years from January 1, 1903. Angola is the extensive Portuguese possession south of the Congo river, from which is derived the Benguela, Loanda, and Ambriz grades of rubber. Of late years the export of these rubbers has declined, which fact is attributed in part to the exhaustion of the supplies near the coast, but more particularly to the better transportation facilities to and from the Congo Free State since the completion of the Congo railway. Angola is a fertile district, and with a railway it is believed that not only would the rubber trade revive, but the general development of the country would be promoted.

Katanga, mentioned above, is a province in the extreme southeast part of the Congo Free State, which of late has begun to be developed in an energetic way by a strong Belgian company. This province is exceptionally rich in rubber, from all reports, which fact may tend to encourage Mr. Williams's railway project. Mr. Williams, by the way, is an engineer in the service of a British concern east of Lake Tanganyika, and some time ago he informed the *Comité Spécial Katanga* that while journeying through their territory he had found important sources of gold. The committee have encouraged his further investigations, with results that have surpassed all expectations. This may prove to be a still further incentive to the building of the railway. All these details are mentioned for the reason that whatever tends to the opening up any rubber producing country is helpful in making rubber more accessible and in placing the production of rubber under more intelligent supervision.

The administration of the Cie. du Chemin de Fer du Congo (the Congo State railway) are reported to be about to invite tenders for the supply of a large electric installation and 30 electric locomotives, the latter to be employed on various small branch lines constructed to secure better communication with rubber producing districts. This railway, 241 miles in length, around the falls in the Congo river, between Matadi and Leopoldville, has now been in successful operation for several years. The net profits for the business year 1898-99 were 6,242,093 86 francs; for 1899-1900 they were 8,001,500.43 francs; for 1900-01 they were 7,778,397.90 francs. The capitalization is 30,000,000 francs.

THE RUBBER TREES AT TUXTEPEC.

TO THE EDITOR OF THE INDIA RUBBER WORLD: An article signed Frederic J. Haskins, dated City of Mexico, December 3, and published in the St. Louis *Globe Democrat* of December 14, 1902, seems designed to create a decidedly unfavorable impression in regard to rubber planting. This writer criticises the issuance of rubber planting prospectuses, guaranteeing extravagant profits, and so far as his letter is concerned one might infer that all rubber planting in Mexico is of a visionary character based upon false hopes. As for his facts, however, he gives some details regarding the collection of rubber on a plantation near the town of Tuxtepec which do not appear to support his conclusions. [An extract from Mr. Haskins's letter appeared in the last INDIA RUBBER WORLD.—THE EDITOR]. Mr. Haskins says: "If rubber growing would guarantee 10 per cent. on the investment—not to speak of 400 per cent.—there is enough idle capital ready and waiting in the United States to plant every acre of land suitable to its culture in the world, and it would not be necessary to advertise to get it, either."

The rubber belt of tropical Mexico lies at an altitude of from 200 to 500 feet, between the foot hills of the cordilleras on one side, and the low coast plains on the other. Its northern limit can be roughly placed at a point just south of Cordoba or Vera Cruz, and extends southward and eastward to the states of Tamasco and Chiapas, and is from 20 to 50 miles wide. Much of the land in this region, however, on account of the soil lacking proper drainage, and the nature of its constituents, is unavailable for successful rubber culture.

Here and there in years gone by, in all this entire region, planters of coffee and cacao have set out rubber trees as shade. These rubber trees were uncultivated and often planted under unfavorable conditions; yet in many instances they have proved a marked success. On the ride between Santiago Tuxla and Palo Herrido the Indians will be seen to have rubber growing in their various coffee patches. The same is true in Acayucan, in the state of Vera Cruz, and in the valley of the Texechoacan, and in the town of Tuxtepec, state of Oaxaca, every dooryard has vigorously growing rubber trees, some of them 50 feet high and $2\frac{1}{2}$ feet in diameter, and yielding rubber.

Undoubtedly the rubber plantation to which Mr. Haskins refers is that of Señor Don Joaquin Jimenez, whose plantation is only one half hour's ride from the city of Tuxtepec, in Oaxaca. He is a gentleman of means, who, like other planters, uses these trees as shade for coffee. He has several thousand rubber trees that were never tapped until last year, when, as an experiment, he allowed a representative from a Vera Cruz commercial house to tap about 350 trees. The product was sold to these people on the plantation at 80 cents a pound, Mexican, the buyer doing all the work. No one has admitted that these trees were bled to their fullest capacity, yet a single tree produced, according to Mr. Haskins's statement, 12 pounds of pure rubber. The age of many of the trees was from seven to nine years, but they yielded 2 pounds of rubber to the tree.

Yet Mr. Haskins does not believe in rubber culture. The Vera Cruz house paid Señor Jimenez only 80 cents, silver, per pound, but the market quotation for Central rubbers at that time was from 45 to 54 cents gold, which, reduced to silver money, according to the rate of exchange used by Mr. Haskins, would give an equivalent of \$1.16 to \$1.38, silver, per pound. Mr. Haskins says that the rubber was clean, in which event 800 pounds should have sold at \$432, gold, but at the lowest quotations the price would have been \$360, gold, which is not so bad, when it is considered that 350 trees are less than

are planted usually on two acres. At the price paid to Señor Jimenez the net return was at the rate of \$365.60, silver, per acre—counting 200 trees to the acre. Estimated at the then current market prices for Mexican rubber, the same yield would have given a gross return of \$205.65 to \$246.78, gold, per acre. This is only for young trees. Not only would successive annual crops be gathered, but an annual increase in yield should be expected as the trees grow older. As already mentioned, some of the older trees in this case yielded 12 pounds of rubber.

I am not saying anything about the people who issue statements about the profits possible from rubber planting investments, or who are charging high prices for rubber lands brought to a state of income development. I do not defend any dishonestly conducted proposition; neither do I say that there are any dishonestly conducted rubber planting properties. I simply desire to state facts as they exist, and the *bona fide* investor can form his own conclusion.

It is an easy matter to verify the statements as to Señor Jimenez's plantation of coffee and rubber, also to visit the "Esperanza" and "Yale" rubber plantations, within one-half hour's ride from Tierra Blanca, on the Vera Cruz and Pacific railroad, where can be seen about 700,000 growing rubber trees, now from three to five years old. Experience shows that trees grown from planted seeds produce rubber as is usual in nature.

It should be stated that the price of Mexican rubber is low for the reason that up to this time the rubber sold is the product of wild trees gathered by the Indians, who take pains to increase its weight by adding sticks, stones, and dirt to make it weigh as much as possible. But properly prepared Mexican rubber sells at a much higher price.

J. J. FITZGERRELL.

City of Mexico, Mexico, December 26, 1902.

[THERE seems to be no doubt of the existence of Señor Don Joaquin Jimenez, the coffee planter near Tuxtepec, and of a considerable number of rubber trees on his estate. According to a report made by a neighbor of Señor Jimenez to THE INDIA RUBBER WORLD last summer, and quoted in our issue of August 1, 1902, there had been planted to that date some 10,000 trees. Our informant then stated, as a fact current in the community: "Recently he permitted some of his six and eight year old trees to be tapped by men sent to his place by a Vera Cruz trader, who extracted and cured about 700 pounds of rubber, for which they paid 80 cents, Mexican. The trees tapped yielded an average of about 1 pound per tree." In a newspaper article by Mr. Haskins, who presumably is not personally informed, he reproduces a statement from a mercantile house whose standing he vouches for, that their representative, in search of facts relating to rubber culture, had found a planter near Tuxtepec on whose estate 350 trees (a few of them twenty years old) had yielded 800 pounds of clean rubber. These two statements do not agree in detail, and there yet remains to be obtained a verified account of just how much rubber was obtained per tree. It is certain, however, that Señor Jimenez obtained less than the market price for his product, but he was relieved of the expense of preparing, shipping, and marketing the rubber. Considering that his trees are in shape for an annual yield for an indefinite period, and that there is now no longer necessary any expense for care of the trees, it would appear that if rubber planters generally can obtain anything near like so good results, they have a good business in prospect.—THE EDITOR.]

THE United States internal revenue department has issued an order permitting the use of a rubber stamp for cancellation of tax paid stamps for renovated butter. Hitherto such cancellation has been required to be made with a stencil plate.

A RESPONSE FROM DR. WEBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In the last issue of your much valued Journal you are good enough to refer at some length to my book ["The Chemistry of India-Rubber. London: 1902] and to criticise its various features. And while I gratefully concede that your criticism, as far as it applies, is eminently fair, I feel at the same time constrained to say that it altogether exceeds the scope of my book, and the essential purpose of the present is to reduce to its true proportions the size of the target you have been aiming at.

At the outset you explain that "rubber manufacturers and their superintendents in most cases know little of chemistry, have a horror of theory, and only seek for an explanation of interesting phenomena when it appears profitable to do so." I am quite in agreement with you that this is a fairly accurate description of the present-day mental attitude of "rubber manufacturers and their superintendents," but I am inclined to think that this "horror of theory" arises largely from the first stated ignorance of chemistry; the unknown, I am persuaded, is one of the chief causes of superstitious horror. This fear of theory, and its concomitant, the deep rooted faith of its inferiority to practice, exist always in the minds of those only who neither recognize the possibilities of the one, nor the limitations of the other.

I am also, to my sorrow, compelled to admit that the above named leaders of industry "only seek for an explanation of interesting phenomena when it appears profitable to do so." Happily the progress of the world does to an infinitesimal fraction only depend upon "manufacturers and their superintendents," for if it did, you, instead of writing criticisms, and I, instead of replying to them, would, by now, probably be trying to break each others' heads with stone axes, untrammelled by theory. As far as I am aware, every great and lasting step in the world's progress is a more or less unpaid debt we owe to pure theorists.

The "thought of cheapening compounds, or saving dollars for himself or anybody else" has indeed occurred to the author on various occasions of his long years of practical experience, but he also, at an early period of his career, came to the conclusion that this laudable intention would be best served by ascertaining the exact nature and correlations of the materials and means at the command of the India-rubber industry, rather than by "ringing the changes" on the contents of the compounding room. I see to-day less reason than ever to alter this opinion. If "India-rubber manufacturers and their superintendents" will not, or cannot, see this at present, they most certainly will do so at some future time, but under much less favorable conditions.

You were evidently looking in my book for sparks of "practical" wisdom—this in spite of my disclaimer in the preface—and from what you could gather in this way you feel inclined to credit me with experience in mackintosh clothing, druggists' sundries, and hard rubber—a somewhat odd collection. But when, in illustration of one point or another, I drew upon my practical experience, which, I believe, very largely exceeds the above branches, I chose my examples without the thought of my readers using the book as a sort of epitome of the range of my manufacturing experience. Nor did I see any reason to advertise in my book the fact that I possess years of experience in the manufacture of rubber footwear, insulated wires, and mechanical goods of every description, to name only those branches which you assume to lie outside my practical knowledge.

Regarding the question of the use of tar you are quite correct, but as I did not write a book on the manufacture of rubber boots and shoes, but had the average practice of the whole India-rubber industry, not so much in America, as in England and on the Continent in view, my statement still remains substantially correct.

Next you say: "It is an acknowledged fact that a rubber shoe which blooms is not vulcanized enough, and yet such a shoe will show a lasting quality and wear that is phenomenal." Now I, for one, certainly will not acknowledge this "fact," for the simple reason that it is not a fact. The blooming of a shoe, or any other India-rubber article, has nothing whatever to do with either over or undervulcanization. The blooming effect depends simply upon the question of the presence of free sulphur; for the rest undervulcanized rubber goods may, or may not bloom, nor does the appearance of a "bloom" in the least justify the assumption that an article is not overvulcanized.

Likewise, your contradiction notwithstanding, must I adhere to my statement that chrome yellow cannot be used in hot cured goods. I have not seen the yellow branded shoe, but there is certainly all the world of a difference between a yellow surface imprint, produced with chrome yellow, and a yellow compound containing the same pigment. Also, are you quite sure the yellow pigment in the imprint is really chrome yellow, or did perhaps your friends try to "put you off?"

You next quote some statements of mine on the question of non-blooming goods, and attempt to traverse them by examples which, although undoubtedly true in matters of fact, do really not touch at all upon the point the statements in question are aiming at. A little more careful reflection might have shown you this. You further call these statements "theories." I am afraid our notions regarding the meaning of the term theory differ rather seriously. This fear becomes a certainty when you continue: "Few theories concerning India-rubber have yet been established, and almost any practice that gives such results as to lay down laws for certain lines of work, and sometimes for certain factories, is absolutely reversed in other lines of work, and in other factories." Now I am not aware of any single "theory" that has been established concerning India-rubber, and shall therefore be pleased to be informed which they are. The second part of that sentence has a distressing look of mental worry about it, but I take it to mean essentially that the practice of one factory is often "reversed" in another factory. This, on the part of a critic, is unbecomingly loose language. What you imply in speaking of the "reversal" of a practice I am unable to say. It sounds almost like a sort of "living backward," something like "Alice's" experiences, or the effect of a reversed biograph film. I have never heard of "reversed practices" in rubber manufacturing, and if this extraordinary thing really exists, what has it to do with "theory"? It certainly would not "reverse" the latter. It is, of course, quite possible for two firms to manufacture similar articles by more or less different methods, but it is a practical, physical, chemical, and theoretical impossibility that both methods should be equally good, or right, although both may produce salable articles. But this is quite another proposition. A great many firms sell rubber tires, although they are hardly all equally good, not even in American practice. The only discriminating tool in such cases consists, not in workshop fancies, but in a sound theory—i. e., a statement connecting under one point of view all the qualitatively and numerically ascertained physical and chemical data concerning India-rubber. I have attempted to make the first contribution towards that end. Yours faithfully,

CARL OTTO WEBER, PH.D.

Boston, Brunswick Hotel, January, 1903.

LITERATURE OF INDIA-RUBBER.

LES PLANTES TROPICALES DE GRANDE CULTURE: CAFÉ, CACAO, Caca, Vanille, Caoutchouc. Avec une Planche sur la distribution des plantes dans le centre de l'Afrique, et les notes biographiques sur les botanistes et les voyageurs ayant contribué à leur connaissance de la Flore de l'Etat Indépendant du Congo. Par E. De Wildeman. Brussels: Alfred Gastagne, 1901. [Roy. 8vo. Pp. 112. Plates. Price, 3 francs.]

DR. DE WILDEMAN has become widely recognized as an authority on the subjects to which this important book relates, through his work as conservator of the state botanic garden at Brussels, as professor in the horticultural school at Vilvorde (Belgium), as a member of the permanent commission of the Congo museum at Tervueren, and as a contributor to botanical and other technical journals. Though this book is devoted to a number of plants of economic value, nearly one half of its pages and 21 of its 38 photogravures relate to Caoutchouc, showing the great importance the future exploitation of this product holds in the mind of the author. In these pages has been admirably compiled a list of rubber yielding plants, of whatever country, and their natural conditions of growth, with notes on the qualities of their product, to serve as a guide to intending planters, particularly in Africa. Methods of extraction and coagulation of rubber are also discussed, embracing a full treatment of the subject of mechanical treatment of *latex*. In addition, there are extensive notes on the planting practice, to date, with the various species, in different regions. Nothing else quite so complete under these various heads has yet appeared in a single publication, and Dr. De Wildeman has rendered the rubber cultural interest an important service. One thing which it is impossible for such a work to contain, as yet, is a compendium of results of planting rubber species outside of their native *habitat*, and this is a most important problem, which time alone can solve.

NOTES ON LAYING, REPAIRING, OPERATING, AND TESTING SUBMARINE CABLES. U[nited] S[tates] Signal Corps. By Captain Edgar Russell, Signal Corps. With Supplementary Chapter on Factory Testing. By Lieutenant Colonel Samuel Reber, Military Secretary. Washington: Government Printing Office, 1902. [Cloth. 8vo. Pp. 70.]

THE signal corps of the United States army has had so much to do of late with submarine cable working that the chief signal officer, General A. W. Greely, has deemed desirable the compilation of a manual for the use of members of the service engaged in the branches of work referred to in its title, quoted above. The various matters can, of course, be treated only in the briefest manner in so small a volume, but the larger literature of cable working is cited freely, for the benefit of those who would inform themselves more fully. This manual is all the more interesting because it relates throughout to submarine cables insulated with India-rubber, and, to Americans at least, because the cables operated by the signal corps—in the Philippines, Alaska, and elsewhere—were made in the United States and mark the establishment of a new branch of the rubber industry in this country. There are included some data of interest regarding the electrical properties of the various insulating compounds employed in the construction of the government cables.

ÉTUDES POUR UNE PLANTATION D'ARBRES A CAOUTCHOUC. Par Octave J. A. Collet. Brussels: Falkhuis. 1902. [Paper. 8vo. Pp. 45.]

A SUMMARY of observations by the author, in Java, Sumatra, and the Malay peninsula, of experiments made in planting *Ficus elastica* and *Hevea Brasiliensis*, upon which he has based estimates of the cost of establishing plantations and of the profits possible. No such estimates, of course, can be of any value outside of the region and the particular conditions for which they are designed. The brochure is of interest, however, because of its detailed information regarding the rate of growth of rubber species under cultivation under certain circumstances,

and there are a dozen good views, from photographs, of plantations in the countries above mentioned.

IN CURRENT PERIODICALS.

Le Caoutchouc à l'Hacienda Aguna. By Revé Guérin. [Preparation of *Castilloa* rubber on the plantation of Guillermo Rodriguez, in Guatemala.] = *Journal d'Agriculture Tropicale*, Paris. II-15 (September, 1902.) pp. 259-261.

Culture du *Castilloa elastica* aux Indes Néerlandaises. By Dr. Spire. [With views of planted trees of this species, some dating from 1886.] = *L'Agriculture pratique des pays chauds*, Paris. I-6 (May-June, 1902). pp. 689-698.

Étude Botanique sur les *Landolphia* Considérés Comme Producteurs de Caoutchouc au Gabon. By Henri Hua. = *Revue des Cultures Coloniales*, Paris. XI-114 (December 5, 1902.) pp. 321-328.

Note pour Contribuer à la Vulgarisation du *Manihot Glaziovii* (Ceará) en Annam. = *Revue des Cultures Coloniales*, Paris. X-110 (October 5, 1902.) pp. 212-215.

Méthodes d'Exploitation des Lianes à Caoutchouc au Haut-Laos et en Annam. By E. L. Achard. = *Bulletin Économique de l'Indo-Chine*, Hanoi. V-4 (April, 1902.) pp. 273-281.

Sur les Plantes à Caoutchouc de l'Indo-Chine. By Monsieur Pierre. = *Revue des Cultures Coloniales*, Paris. XI-111 (October 20, 1902.) pp. 225-229.

Le Caoutchouc en Rhodésie. [Based upon "The Rubber Industry in the British South Africa Co.'s Territories," by P. Lyttleton Gell, already mentioned in THE INDIA RUBBER WORLD.] = *Revue des Cultures Coloniales*, Paris. XI-104 (July 5, 1902.) pp. 18-21.

Un *Siphocampylus* à Caoutchouc de l'Équateur. [*S. giganteus*, Don.] By Henri Jumelle. = *Revue des Cultures Coloniales*, Paris. XI-104 (July 5, 1902.) pp. 5-7.

Getah pertja. By A. H. Berkhout. [Review of a brochure, "Études sur la Gutta-Percha Commerciale" by Octave J. A. Collet.] = *De Indische Mercur*, Amsterdam. XXV-31 (August 5, 1902.) p. 580.

Études sur la Gutta-percha Commerciale. By Octave J. A. Collet. [Reply to a criticism by A. H. Berkhout of a former paper by the same author.] = *Bulletin de la Société d'Études Coloniales*, Brussels. IX-9 (September, 1902.) pp. 516-520.

Reisebericht der Guttapercha- und Kautschuk-Expedition nach den Südsee-Kolonien. By R. Schlechter. [Relates to the discovery of Caoutchouc and Gutta-percha in New Guinea, with reports on samples submitted to commercial houses and scientific institutions.] = *Der Tropenpflanzer*, Berlin. VI-8 (August, 1902.) pp. 396-402.

Guttaperchakultur in Kamerun. By Prof. Dr. O. Warburg. = *Der Tropenpflanzer*, Berlin. VI-11 (November, 1902.) pp. 561-564.

Balata and its Employment. [Editorial on uses of this material.] = *Engineering*, London. LXXIV-1920 (October 17, 1902.) p. 513.

Wire and Cable Specifications. By L. T. Collins. = *Electrical World and Engineer*, New York. XL-24 (December 13, 1902.) p. 945.

OTHER PUBLICATIONS RECEIVED.

HANDBOOK of Sierra Leone for 1901 and 1902. Edited by A. B. C. Merriman-Labor, of the Colonial Secretary's office, Sierra Leone. Manchester: John Heywood. [Boards. 12mo. Pp. 213. Price 3 shillings.]

New York Rapid Transit Tunnel. Illustrating the Uses and Application of Rand Drills and Rand Air Compressors in Centralized Air Power Plants. New York: March, 1902. [4to. Pp. 56.]

Special Report of Captain George P. Ahern, in charge of the Forestry Bureau, Philippine Islands, April, 1900, to July 30, 1901. Washington: 1901. [Paper. 8vo. Pp. 60+33 plates.]

The Planting Directory of South India. 1902. Madras: Office of *Planting Opinion*. [Boards. 4to. Pp. 49. Price, 2 rupees.]

La "Bolivian Company" en la region de Capolican. La Paz: 1901. [12 mo. 17 pp.]

Boletín de la Oficina Nacional de inmigración, Estadística, y Propaganda Geográfica, La Paz. I-9, 10 (September, October, 1901.) Containing results of the first decennial census of Bolivia, under direction of Señor Manuel V. Ballivian, director general of the comisión nacional.

AMERICAN CONSUMPTION OF INDIA-RUBBER IN 1902.

As shown in the table at the foot of this page, the imports of crude India rubber during 1902 were smaller than during 1901, though exceeded in volume in only two years in the history of the trade. There were smaller exports to Europe, however, and very much smaller stocks at the end of the year than at the beginning, with the result that deliveries to manufacturers were larger than in 1901—or in any other year, save 1889, when a phenomenal consumption of rubber followed an era of depressed trade conditions. In other words, deliveries to manufacturers were only 194 tons less than in the year of greatest consumption, and 2381 tons greater than the average for the five years preceding 1902. The record of consumption for 1902 represents a normal condition of the rubber industry, which during the year has presented a picture of continuous activity, and the new year opens with no indication that this condition will be disturbed. These figures, by the way, do not include Gutta-percha, Balata, or the cheaper East Indian gums. The record of consumption relates to Canada as well as the United States, since the greater part of the requirements of rubber manufacturers in the Dominion are imported via New York.

From the same source is obtained the following comparative statement of prices of fine Pará rubber in New York and Liverpool, for ten years past:

YEARS.	New York.	Liverpool.
1893	64 @ 79	2.10 @ 3. 3
1894	64½ @ 73	2. 0 @ 3. 1
1895	70 @ 81½	3. 0½ @ 3. 4½
1896	71 @ 85	3. 0½ @ 3. 8¾
1897	79½ @ 89	3. 5 @ 3. 9
1898	82 @ 1.06	3. 7½ @ 4. 5
1899	91 @ 1.10	3. 10 @ 4. 7½
1900	83 @ 1.11½	3. 8½ @ 4. 9
1901	76 @ 95	3. 4 @ 3. 11½
1902	66 @ 92	2. 10 @ 3. 9½

The next table analyzes the imports of crude rubber into the United States by grades, the figures denoting tons:

YEARS.	Fine Pará.	Coarse Pará.	*Centrals.	African and E. I.	Total.
1897	7,556	2,935	2,404	4,776	17,671
1898	6,804	2,935	3,003	5,878	18,620
1899	8,622	3,876	3,440	7,157	23,095
1900	8,079	3,906	3,020	5,463	20,468
1901	9,304	3,838	2,927	7,139	23,208
1902	8,666	4,235	2,588	6,353	21,842

[* Including Caucho and Pernambuco.]

The percentage of the various grades in the imports into the United States were as follows:

Pará fine	39.64
Pará coarse	19.40
Centrals, Caucho, and Pernambuco	11.86
African	29.10

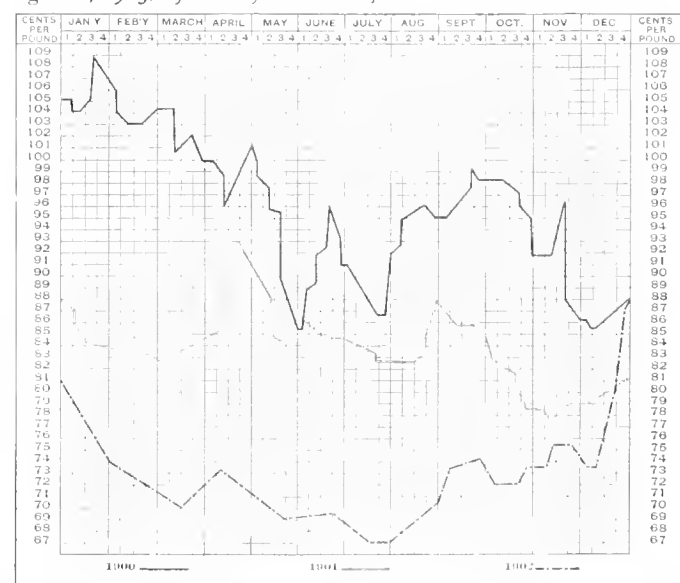
The percentage of fine Pará in the imports for the nine years preceding was: 45¼ in 1893; 46¼ in 1894; 44 in 1895; 45½ in 1896; 43¼ in 1897; 36½ in 1898; 37¼ in 1899; 38½ in 1900; and 40 in 1901.

The figures in the next table, showing the extent of the world's visible supplies of rubber on January 1, 1903, have been derived from the Messrs. Morse's tables, though they are given on this page in pounds instead of tons, in order that they may be compared readily with former tables:

	Pounds.
Stocks in the United States	741,440
Pará grades	11,600
Central American and Caucho	1,150
African and East Indian	1,310
Stocks in Europe	5,476,800
Pará grades	20,000
All other	1,100
Stocks Pará grades at Pará and aloft	6,003,200
Total	12,221,440
Total, January 1, 1902	18,928,100
Total, January 1, 1901	19,163,000
Total, January 1, 1900	10,281,000
Total, January 1, 1899	10,215,440
Total, January 1, 1898	9,050,000
Total, January 1, 1897	10,171,600

RUBBER PRICES FOR THREE YEARS.

DIAGRAM showing fluctuations in spot prices, at New York, of Islands Pará fine rubber, during 1900, 1901, and 1902 [copyrighted, 1903, by Henry A. Gould]:



[The topmost line indicates the course of prices in 1900, the middle line 1901, and the lowest line the range for 1902.]

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of ALBERT T. MORSE & Co., brokers, New York.]

DETAILS.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
Imports to United States	13,554	12,942	14,263	16,152	15,347	16,420	14,643	16,182	14,333	17,671	18,620	23,095	20,468	23,208	21,842
Exports to Europe	268	116	231	982	491	714	391	324	500	250	150	300	450	680	430
Net Imports	13,286	12,826	14,032	15,170	14,856	15,706	14,252	15,858	13,833	17,421	18,470	22,795	20,018	22,528	21,412
Add Stock January 1	1,674	1,600	740	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198	1,399
Aggregating	14,960	14,426	14,772	16,430	15,942	16,923	15,289	17,278	14,391	18,062	19,214	23,386	20,730	23,726	22,811
Less Stock end of year	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198	1,399	331
Deliveries to Manufacturers	13,351	13,680	13,512	15,344	14,725	15,886	13,869	16,720	13,750	17,318	18,623	22,674	19,532	22,327	22,480

THE AUTOMOBILE SHOW AT NEW YORK.

THE third annual automobile show under the joint auspices of the Automobile Club of America and the National Association of Automobile Manufacturers, at the Madison Square Garden, in New York, January 17-24, has demonstrated not only an interest in automobilism in the United States sufficient to give support to a great industry, but also that the progress made by manufacturers in this country during the past three years has been such as to place them on equality with the most advanced makers in the old world, and render them capable of supplying every demand at home. Measured both by number and the character of the attendance, the last automobile show was one of the most important exhibitions of any kind given at Madison Square. The attendance, for the most part, was not of curiosity seekers, but of people who apparently were able to own automobiles, and whose interest lay in becoming acquainted with the vehicles, with a view at some time to making purchases. In fact, an important amount of business was done on the spot, the aggregate of sales made having been estimated at \$2,000,000, in addition to which many agencies were arranged for, and the future effect of the educational work begun is beyond computation. There were 198 exhibitors, including manufacturers of automobiles, parts, and accessories. Over 80 firms exhibited finished machines. Some of the leading foreign makes were represented, including machines of worldwide fame, and the show was attended by foreign critics of reputation who freely acknowledged the great progress made recently in automobile construction in the United States.

This subject is of particular importance to the India-rubber industry for the reason that it opens a new demand more important than any other single industrial development at any time in the past, and a demand which cannot under any circumstances easily conceivable cease to exist. Not only pleasure vehicles, touring cars, and public conveyances are involved in this new industry, but a wide range of commercial vehicles, including delivery wagons and trucks in wide variety, fire apparatus and so on, every one of which must be equipped with rubber, both for tires and for smaller accessories, the amount of which, in the aggregate, will be very large. There is not space in these pages for a discussion of the types of vehicles shown, but it may be of interest to note that a canvas made at the show revealed the presence of 253 completed vehicles, of which 168 were operated by gasoline, 51 by electricity, and 34 by steam. Of 84 distinct makes of cars, 69 had wood wheels, 11 wire wheels, and 4 tubular wheels. Fifty had detachable tires, 23 hose pipe tires, and 9 had solid tires.

The second large automobile show of the year will be held in Chicago, from February 14 to February 21 inclusive, and many of the exhibits made at Madison Square will be repeated there. The second annual automobile show at Philadelphia, under the auspices of the local automobile club and the local dealers' association, will be held March 2-7. There was a general expression of opinion after the Madison Square show that it closed too soon, and many manufacturers are likely to be represented at a permanent exhibition of automobiles to be opened soon by R. H. Macy & Co., occupying an entire floor in their new department store at Broadway and Thirty-fourth street, New York, and involving more space than the entire arena at Madison Square Garden.

The rubber tire industry was strongly represented at the

automobile show by exhibits from leading companies, in charge of capable forces of attendants and salesmen. These displays were devoted chiefly to standard types of tires, and little was shown in the way of novelty. There was particularly an absence of anything like "freak" tires. The tire exhibits were constantly visited, not only by representatives of existing and prospective manufacturers of automobiles, but by large numbers of persons interested in automobilism and, therefore, in understanding the comparative merits of various kinds of tires. It may be said that the detachable type of pneumatic tire appeared to be in most favor, judging by the number of wheels on exhibition equipped with this type, and from the interest shown by visitors. For the heavier vehicles, however, and particularly the enormous trucks shown, a demand exists for solid tires. By the way, the manufacturers of tires of the latter type insist that, when pneumatic tires are inflated to the extent necessary to get the best possible service from them, they are not more resilient than solid tires made of good compounds, while the latter are free from the annoying liability to puncture. There was evidence of no little business being done by the tire exhibitors. The exhibits will be mentioned in the order of their enumeration in the official catalogue.

HARTFORD RUBBER WORKS CO. (Hartford, Connecticut) exhibited as their leading type the Turner endless solid wired-on tire, in all sizes. Attention was called especially to its merits for heavy motors, and to its durability and the perfect fit obtainable, as compared with tires which are applied by compressing the rubber. Exemption from creeping is also claimed. Other tires shown were the Hartford single tube and Dunlop detachable tires, for automobiles. The Dunlop this year involves some new features in construction. Red inner tubes were shown at this exhibit.

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio) made a good demonstration of the Firestone side-wire tire, which they have just begun to make in their own factory, after having had their orders filled under contract for some time past. The claim is made for this tire that it can be fitted to the wheel more closely than other types of solid tires, particularly in the case of large sizes; that the cross wires hold the tire in place perfectly, preventing any tendency to creep; and that any trouble is avoided due to the cutting of the rubber, such as results from the longitudinal wires in other solid tires.

FISK RUBBER CO. (Chicopee Falls, Massachusetts) exhibited for the first time the Fisk detachable automobile tire, which they state is covered by their own patent. The distinctive feature in the construction of this tire is that, instead of being held in place by air pressure, the outer cover is retained by a series of clamps and transverse bolts which render it impossible for the tire to come off the rim, whether inflated or not, and which also prevent creeping of the tire. The inner construction of the cover renders it also impossible to pinch the inner tube. The company make a claim of excellence for the special type of fabric used. These tires are made in different weights, but the company assert that increase in size, rather than thickness of walls, produces the best results. The Fisk single tube carriage tire was also shown, and the Fisk single tube tire repair outfit.

METALLIC RUBBER TIRE CO. (New York) exhibited their patent tire cover—capable of being applied to any pneumatic tire—consisting of a strip of rubber studded with flat headed

rivets, driven from the inside and clinched on the outside, the purpose being to prevent punctures and slipping. This device has been shown before, but this year the rivets are placed more closely together than in the past.

THE B. F. GOODRICH CO. (Akron, Ohio) exhibited as their principal type the Goodrich Clincher vehicle tire, which has been their leader in this field since the automobile industry first attained important dimensions. It is made this year with a new and simpler clip, which dispenses with the thumb screw of the former clips. They manufacture also the Goodrich single tube motor tire. In solid tires they offer two types: the Goodrich Solid, which they have begun to make on their own account since certain decisions adverse to the Grant patent were made, and the Goodrich Side-wire, manufactured under license from the owners of Swinehart patent.

CONSOLIDATED RUBBER TIRE CO. (New York) exhibited their widely known Kelly-Springfield solid tire, with retaining wires which are electrically welded, and made in sizes of $\frac{3}{4}$ inch to 4 inches. The company again showed the Hall sectional tire, which has now been made in sizes up to 8 or 10 inches square for the projecting rubber parts. In these large sizes a separate piece of rubber is used for each projection, some of which are $3\frac{1}{2}$ inches deep. They showed for the first time a new Traction tire of novel section, which is held in place by two rows of bolts extending through tire and felly.

G & J TIRE CO. (Indianapolis, Indiana) exhibited their widely known "G & J" detachable tire, in styles for vehicles up to 2400 pounds in weight. These tires are held in place, on special rims, by air pressure. They are now made with smooth treads, though the long familiar corrugations will be supplied to those preferring them.

INTERNATIONAL AUTOMOBILE AND VEHICLE TIRE CO. (New York) exhibited their line of single tube pneumatic motor tires, and also solid rubber wired-on tires, and cushion tires, made at their new factories in Milltown, New Jersey. Their pneumatic tires are made in various types, two of which are the "Fox brand" and "Endurance." The latter is made with two vulcanized inner tubes.

DIAMOND RUBBER CO. (Akron, Ohio) exhibited their "Continental" type of detachable tire, now manufactured under arrangement with the G & J Tire Co. Diamond Single-tube and solid tires were also shown. Inner tubes of red rubber, 4 inches in diameter, served to attract additional attention to this booth. Another new feature is the making of inner tubes by a process warranted to prevent "blooming," which will be helpful in the application of repair patches.

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) exhibited the Goodyear Endless solid tire which they have been making for sometime past; the Goodyear Detachable pneumatic tire; the new Goodyear reinforced single tube tire; the Goodyear "Wing" carriage tire, and cushion and "puncture proof" pneumatic tires. Also the Akron Clincher tire, and a new "Notched" tire for pleasure cars. The advertising matter distributed from this exhibit was devoted to illustrations of heavy trucks and other vehicles, including a piece of fire apparatus in San Francisco, California, weighing 19,000 pounds, equipped with Endless solid tires.

STANDARD ANTI-FRICTION EQUIPMENT CO. (New York) exhibited the "Be-no-ca," or Beasley elastic tire, for automobiles, and also a tire of somewhat different construction, but made under the same patent, for bicycles. This tire, patented by Colonel W. R. Beasley, of Baltimore, consists of an outer tube of rubber and an inner core, also of rubber, the latter being "constructed on the principles of a trust bridge." The object is to produce a resilient tire which will not be injured

by any number of punctures, since the tire is not inflated. This tire is made for the company by the Alden Rubber Co. The Standard company exhibited the Batavia "Star Brand" solid tire, which is held in place by a longitudinal band with beaded edges.

The only exhibit in the tire field not made by a rubber tire concern was the Cummings "Cinch tire protector," which consists of a band of waterproofed leather, wire quilted, anchored to a base of specially prepared heavy duck, all of which may be "cinched" around any pneumatic tire by means of wires. This is designed not only to prevent punctures and rim cutting, but also to exclude moisture and dust from the tire. This protector on an automobile can be painted to correspond with the running gear. Made by the Cummings Tire Manufacturing Co., No. 68 William street, New York.

The B. F. Goodrich and Diamond Rubber companies for the first time exhibited tires made to metrical measurements—*i. e.*, in millimeters—a desirable feature in equipping wheels of imported motors, which are less easily fitted with tires made to inch measurements.

A novelty in horns fresh from Paris was shown in the gallery. It is a big affair that makes noise enough for a tugboat and the feature of it is a covering of soft sheet rubber stretched over the mouth to keep the dust out of the reed. This rubber distends slightly when the horn is blown and does not injure the tone. Ordinarily wire gauze is used as a dust screen.

GUARDING RUBBER FACTORY SECRETS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We are continually reading in the newspapers and elsewhere about the uniform courtesy that is shown to foreigners who wish to inspect American factories and manufacturing plants. As far as I know—and my business has taken me to a number of rubber works—this has been true and is true for the most part, of our rubber factories. To be sure, a stranger is greeted generally by the words, in cold black and white: "No admittance without a pass from the superintendent," but this pass has been as a rule quickly forthcoming. In fact in one large factory that I have visited, the management often provides a guide who will pilot one to every crook, cranny, and recess of the immense factory, and who will explain and answer all questions to the best of his ability. I have noted lately, however, a disposition here and there to cut down this freedom of access, and but a short time ago was brought face to face with a new "proposition"—a small card posted in a prominent place in the office of a large factory, reading: "Owing to our many secret processes and special machines, we admit no guests to our factory."

This is a new departure, indeed. Is this a sign that we are acquiring the secretive disposition of some of our European friends, and that it is simply an excuse to bar all outsiders, or is it simply the truth? I am inclined to take the former view and I deprecate it. I am still of the opinion that *brains* and *push* are the only processes and machines that go to make a company successful; "*special machines*" are on all sides of us, and "secret processes" are not the foundations of success. In fact I doubt whether there are many secret processes in use in our factories. The secret of success is in the all round careful management of the business, not in mixing up secret compounds on the rolls.

I trust that this movement will not spread, and believe that it will not. Secrecy breeds suspicion and the more open we are the better will be the general good feeling among the trade, and all our companies will be paying just as good dividends, to boot.

D. L. R.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first eleven months of 1902, compared with the same period of three years preceding, not including exports to Hawaii and Porto Rico:

Month	Belting, Packing, and Hose	Boots and Shoes	All other Rubber	Total
November, 1902...	\$ 75,634	\$ 92,374	\$ 165,922	\$ 333,930
January-October...	590,272	805,711	1,659,205	3,121,188
Total, 1902.....	\$971,906	\$958,085	\$1,825,127	\$3,455,118
Total, 1901.....	547,305	840,071	1,603,047	2,990,423
Total, 1900.....	480,895	593,664	1,401,007	2,475,566
Total, 1899.....	(a)240,018	256,713	1,373,600	1,870,331

(a) Included in "All Other" prior to July 1, 1899.

The number of pairs of rubber boots and shoes exported was 2,168,221, against 2,095,151 pairs for the same period of 1901 and 1,133,473 for the first eleven months of 1900.

RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during five weeks ended December 30, 1902:

Australia...	\$ 7,930	Dan. W. Ind.	\$ 105	Netherlands.	\$ 4,040
Aus.-Hung'y	476	D. Guana...	24	Peru	140
Argentina...	976	Ecuador...	172	Portugal...	220
Belgium...	10,544	Egypt...	53	Philippines...	725
Brazil...	1,045	France...	17,109	Russia...	1,619
Brit. Africa...	9,150	French W. Ind.	10	Sweden...	125
Brit. E. Ind.	1,100	Germany...	32,822	Spain...	1,519
Brit. W. Ind.	1,337	Great Britain	68,910	Switzerland...	839
Colombia...	362	Haiti...	74	San Domingo	237
China...	263	Italy...	571	Turkey (Asia)	10
Cuba...	6,906	Japan...	344	Venezuela...	376
Central Amer.	775	Mexico...	5,631		
Chile...	4,114	Newfoundld.	552	Total...	\$184,175
Denmark...	1,339	Norway...	113		
Dutch W. Ind.	42	New Zealand	305		

SUMMARY.

July 2-29 (four weeks).....	\$117,578
July 30-August 26 (four weeks).....	119,103
August 27-September 23 (four weeks).....	161,041
September 24-October 25 (five weeks).....	208,861
October 26-November 25 (four weeks).....	161,454
November 26-December 30 (five weeks).....	184,175

Total.....\$952,242

Some other exports from New York during the six months July-December, 1902, were in value as follows:

PRESS SHIELDS.	Liverpool.....	30,150	Glasgow.....	3,598	
Antwerp.....	\$18,222	London.....	3,598	Gothenburg...	594
Brussels.....	100	Manchester...	596	Hamburg.....	12,344
Brazil.....	63	Rotterdam....	272	Havre.....	621
Ecuador.....	15	Stettin.....	25	Hull.....	4,632
Glasgow.....	4,342	Australia.....	258	Helsingfors...	90
Hamburg.....	67,620	Japan.....	230	Kiel.....	125
Havre.....	3,810			Liverpool.....	2,066
Liverpool.....	22,542	Total....	\$122,079	London.....	14,537
London.....	53,231			Manchester...	22
Odessa.....	514	CLOTHES WRINGERS.		Odessa.....	14
Rotterdam....	954	Abo.....	\$ 20	Rotterdam...	7,459
Vienna.....	7,211	Antwerp.....	\$,179	Stockholm....	540
Argentina.....	1,501	Altona.....	580	Stavanger....	75
Australia.....	6,436	Amsterdam...	102	Wiborg.....	105
British Africa.	48	Bremen.....	730	Windau.....	80
British W. Ind.	23	Brussels.....	514	Wasa.....	20
Mexico.....	1,242	Bordeaux....	85	Zurich.....	612
Newfoundland	21	Bremerhaven..	495	Argentina.....	193
New Zealand..	445	Bergen.....	59	Mexico.....	190
Uruguay.....	146	Barnen.....	129	New Zealand..	3,487
		Bradford.....	45	Peru.....	111
Total....	\$138,486	Christiana....	1,924	Uruguay.....	24
RECLAIMED RUBBER.		Copenhagen...	1,310	Australia.....	7,216
Christiana....	\$ 4,546	Chemnitz....	93	Austria.....	294
Genoa.....	8,450	Cologne.....	125	Japan.....	18
Glasgow.....	32,836	Constance....	483	British Africa.	1,777
Hamburg.....	6,085	Danzig.....	1,205	British W. Ind.	129
Havre.....	10,514	Drammen....	20	Portug. Africa.	18
Leith.....	15,489	Düsseldorf...	330		
		Frankfort o/M	692	Total....	\$77,661

RUBBER THREAD.	Genoa	1,715	Colombia	79	
Antwerp	\$ 8,364	Glasgow	204	Cuba	355
Barmen	300	Mannheim	64	Gothenberg	75
Genoa	11,798	Offenbach	16	Glasgow	4,040
Hamburg	16,492	Rotterdam	2,365	Hamburg	29,438
Havre	8,563	Vienna	18	Havre	22,222
Hull	1,427	Cuba	271	Liverpool	56,558
Marseille	600	British Africa	48	London	9,887
Rotterdam	4,773	Australia	442	Lyons	88
Central Amer.	1,235	Argentina	145	Leith	14,351
				Manchester	1,060

Total...\$53,522

Total...\$9,549

RUBBER CEMENT.

Antwerp...	\$1,281
Barcelona...	300
Brussels...	500
Breslau...	60
Copenhagen...	750
Christiana...	10
Frankfort o/M...	400
Fiume...	50
Hamburg...	910

RUBBER SOLUTION.

Barcelona...	\$ 90
Fiume...	490
Hamburg...	1,050

Total...\$1,600

CRUDE RUBBER.

Brazil...	\$ 90
Bremen...	50
Christiana...	1,865

Total...\$142,498

GUTTA PERCHA.
Hamburg...\$ 3,692

RUBBER GOODS IN THE YUKON TERRITORY.

THE Canadian special trade commissioner for this district reports to his government that, on account of the large quantity of machinery in operation, there is a considerable demand for belting (leather and rubber), which is now purchased chiefly from Canadian manufacturers and dealers. The sales will increase, he says, as additional machinery is sure to be introduced. He reports a large market for rubber packing, of which he says that Canadians are now getting a share, but have not more than one half of the trade. A good market is reported for rubber hose, which is very extensively used, especially of 1/2 inch sizes, to connect steam pipes to thawing points. The agent says that the Canadians are not getting their share of this trade. To give an idea of the consumption of rubber boots, the agent writes that 15 tons of old rubbers were shipped from Dawson to the United States in one day in August last, and adds: "Some Canadian rubbers shipped a few years ago proved very inferior and unsatisfactory, and since then the main purchases have been from the United States. Careful nursing and energetic effort and a first class article will again secure the trade for Canadian firms." A very large demand in winter is reported for felt boots and shoes, which are principally American, though occasionally bought through Canadian jobbers.

BRITISH EXPORTS OF RUBBER GOODS.

	1900.	1901.	1902.
Boots and shoes.....	{ £1,423,464 }	£ 176,387	£ 171,674
All other.....		1,086,025	1,042,884
Total value.....	£1,423,464	£1,262,415	£1,214,558

Value of "Apparel and Slops," waterproofed by any process, in 1902: £262,244.

Exports of rubber footwear amounted to 138,084 dozen pairs in 1901 and 144,014 dozen pairs in 1902.

CREDIT MEN'S ASSOCIATIONS.

THE New York Credit Men's Association have elected officers and committees for another year, the rubber trade being represented in the official list by Mr. Edward E. Huber, of the firm of Eberhard Faber, as treasurer, while Mr. H. M. Sadler, Jr., of the United States Rubber Co., is a member of the membership committee. The New York association has about 475 members and the national association nearly 5000, including banks, corporations, and large business houses. These associations have done a very important work in the protection of their members against fraud, and in influencing legislation in various states for the better protection of creditors.

RUBBER NOTES FROM EUROPE.

THE Calmon Asbestos and Rubber Works, Limited, have been registered to take over the business of asbestos and rubber manufacturers and merchants, carried on hitherto by the Calmon Asbestos and Rubber Works, at 6, Sheppy place, Menories, London, and to adopt an agreement with the Asbest- und Gummiwerke, Alfred Calmon, Actiengesellschaft, Hamburg. The capital is £50,000, and Herr Alfred Calmon is one of the first directors.

=Mr. Ernest E. Buckleton, general manager and executive officer of the Northwestern Rubber Co., Limited, (Litherland, Liverpool, England), is meeting with the most flattering sort of success in placing his goods among rubber manufacturers in Great Britain and on the Continent. Mr. Buckleton is very much of a cosmopolitan and in his travels is able to interest the French, Germans, Russians, and Belgians, just as much as he does the Anglo-Saxons.

=Wallington, Weston & Co., India-rubber manufacturers, having their warehouse and works hitherto at Limpley Stoke, Bath, England, advise THE INDIA RUBBER WORLD that, owing to increased business, they have secured new mills and laid down a new and larger plant, in a new location. Their only address for office and works hereafter is Wallington, Weston & Co., St. John's Mills, Frome, England. The company are having a good business in solid rubber vehicle tires.

=Reclaimed rubber made from Russian galoshes is being offered to the trade by the Russian-French Rubber Works, "Provodnik," Riga, Russia.

=The Continental Caoutchouc- und Guttapercha- Compagnie had 454 wheels at the Paris automobile exhibition fitted with their tires.

=Mr. T. J. Lloyd, who has been connected with the India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited, for forty years, and had been their secretary since 1896, died in London on December 24. Mr. Lloyd was in his sixty-first year.

THEFTS OF RUBBER IN ENGLAND.

ACCORDING to the *India-Rubber Trades Journal*, which of late has reported several cases of prosecution of thefts of raw rubber, "there is at least for every case prosecuted ten to twenty cases undetected," which must mean a big loss to the trade, and the *Journal* urges that no detected thief should be left unprosecuted. The case is mentioned where a series of thefts went on in a certain rubber factory for a long time, and was detected only by accident. The works were built on the side of a canal and separated from this canal by a wall. The thieving workman, in collusion with an outsider, had only to carry the rubber a few steps and drop it over the wall into the canal, whence it could easily be fished out.

A RUBBER WORKERS' UNION IN ENGLAND.

AT a recent meeting of the Preston Trades' Council, the chairman stated that he was extremely sorry to announce that the Leyland Rubber Workers' Union had come to grief. He quite understood the many difficulties with which they had to contend, but he could not help contrasting their position with the long and plucky stand of the Penrhyn quarrymen. The London *India-Rubber Trades Journal* says: "If the chairman understood the peculiar circumstances that obtain in a rubber works, he would be better able to appreciate why it is that there can never be a union akin to that in any other trade. The first step of a union would be to try to bring about a level rate of pay. In a rubber works, where many of the branches are dependent upon the skill of the workers, such a proposal would

be absurd, and would be worse for the rubber workers concerned. It is to be sincerely trusted that any other attempt to form new branches of the union will meet with the same determined resistance as occurred at Leyland."

HARD RUBBER WORKERS IN LEIPSIK.

A MEETING at "Schloss Lindenfels" at Leipzig-Lindenau, was attended by about 50 rubber turners. After a lecture on "The Duty of the Workman in the Present Industrial State," statistics were presented, showing a total of 128 workers engaged in the hard rubber branch in Leipzig—namely, 84 turners and 28 polishers (grinders). Of these 56 were organized and 31 not organized; 77 per cent. took part in the meeting; 60 married, with 141 children and 27 single; average age 27 years, 9 months, 4 days. Seventeen persons were unemployed for a total of 172 weeks; 18 were sick for a total of 67 weeks. The average wages was 25 marks [= \$5.95] per week, against 22 62 marks [= \$5.38] last year.—*Gummi Zeitung*.

THE RUBBER INDUSTRY IN RIGA.

ACCORDING to an official report, there are three rubber factories in or near Riga, two being small private concerns. The third is the Russian French "Prowodnik" stock company, with a capital of 3,500,000 rubels [= \$1,832,500]. The turnover for 1901 amounted to 8,000,000 rubels [= \$4,120,000]. The profit for the year was 120,000 rubels [= \$61,800], all of which was transferred to reserve and sinking funds. Though no workers were discharged during the year, the working hours were shortened in some cases. Very sharp competition, at home and abroad, is referred to as preventing the earning of larger profits, in spite of the large volume of trading. The daily wages are equal to 36 to 87 cents for men and 21 to 36 cents for women. Piece workers earn from 8 to 36 cents more per day. The production consists largely of "galoshes."

THE DUNLOP TIRE COMPANY.

AT the annual meeting of the Dunlop Pneumatic Tyre Co., Limited, (London, December 10), Mr. Harvey du Cros, in discussing the expiration next year of the Dunlop tire patents, intimated that the company did not fear a German invasion of the trade the moment that the company's patent monopoly ceased. He said to the company that no one could manufacture a "Dunlop" tire without their permission. "The name 'Dunlop' is your property, and cannot be alienated or taken by anybody else, and your position in the cycle trade is secure." On this point it would appear, from the *India-Rubber Journal* (London), that opinion is divided, it having been generally considered that a patented article known by any name, even that of an individual, could on the expiration of the patent be manufactured by any person. Mr. du Cros stated that the turnover of their rubber works during the fiscal year had been £510,000, and that an addition of £40,000 had been made to the capital devoted to the rubber manufacture. The earnings of the rubber company had amounted to £54,000. Speaking of the reduction of prices during the year, he said that if the year's business had been done at the former prices charged for their tires, it would have made a difference in their profit of between £50,000 and £60,000.

DUNLOP PNEUMATIC TYRE CO. OF AUSTRALIA.

THE above company are successfully operating their factory, at Melbourne, manufacturing Dunlop tires and the "Kelly-Springfield" rubber vehicle tire. They expect gradually to extend their manufacture to include nearly all the products of the rubber industry. Their superintendent, John Stearns, formerly of Akron, Ohio, is highly pleased with the country, which he regards as offering a grand field for the development of the rubber industry.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED DECEMBER 2, 1902.

- N**O. 714,650. Bathing apparatus. Herbert G. Batchelder, Allston, Massachusetts.
 714,855. Manufacture of crude Kerite. William R. Brixey, Seymour, Connecticut.
 714,859. Kerite. William R. Brixey, Seymour, Connecticut.
 714,917. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
 714,918. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
 715,028. Removable Horseshoe pad. Daniel J. Cummings, New Haven, Connecticut.
 715,077. Clothes wringer. Maximillian P. Janisch, Muskegon, Michigan.
 715,094. Automatic pump for pneumatic tires. Charles S. Langton, Parkersburg, Illinois.
 715,186. Composition of matter for the manufacture of golf balls, etc. Charles O. Watkins, Moriah, New York, assignor of one-half to Charles G. Vey, Crownpoint, New York.
 715,200. Playing ball. Eleazer Kempshall, Boston, Massachusetts.

ISSUED DECEMBER 9, 1902.

- 715,248. Protective garment. Katherine M. Davis, Lake Providence, Louisiana, assignor of one-half to Mary Tucker Ruple, Cleveland, Ohio.
 715,295. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
 715,305. Pneumatic tire. Edward H. Seddon, Brooklands, England.
 715,353. Process of making dress shields. Theron Davis, New York city.
 715,359. Fountain pen. Robert B. Dickie, North Freedom, Wisconsin.
 715,361. Elastic tire for vehicles. Henry H. Durr, New York city.
 715,387. Horseshoe. Franciszek Kaczynski, Warsaw, Russia.
 715,419. Pencil sharpener, ink eraser, and paper cutter. Harper Pease, Portland, Oregon.
 715,430. Detachable pneumatic tire. Frank A. Seiberling, Akron, Ohio.
 715,566. Hose supporter. Moses H. Eiseman, Chicago, Illinois.
 715,593. Wheel. Fred Lyon, Ithaca, New York, assignor of one-half to William J. Romer, Ithaca.
 715,646. Eraser. Richard J. Driscoll, Tarrytown, New York.

Trade Mark.

- 39,422. Certain named rubber goods. The Miller Rubber Manufacturing Co., Akron, Ohio. *Essential feature*—The representation of a pair of hands grasping the ends of a bag or sack, which presumably is of seamless flexible rubber. Used since November, 1899.

ISSUED DECEMBER 16, 1902.

- 715,837. Comb. Franz Mosterts, Berlin, Germany.
 715,965. Means for ornamenting plastic surfaces. Ernst P. Brandt, Baltimore, Maryland.
 715,987. Tire fastening. Ralph M. Connable, Baltimore, Maryland.
 716,066. Resilient tire. Jean P. Le Grand and Narcisse Cheneau, Levallois-Perret, France.
 716,072. Hose clamp. Frank T. Lippincott, Newark, Ohio.
 716,099. Tire for motor vehicles. Max Polack, Waltershausen, Germany.
 716,155. Elastic cable. Julius H. West, Berlin, Germany.
 716,249. Syringe. Thomas L. Jones, Kansas City, Missouri.
 716,245. Golf ball. Eleazer Kempshall, Boston, Massachusetts.
 716,251. Pneumatic hat block. Robert Lamont and Charles E. Weatherhead, Denver, Colorado.
 716,290. Golf ball. Emmet Schults, Arlington, New Jersey, assignor to The Arlington Co., a corporation of New Jersey.
 716,291. Golf ball. Emmet Schults, Arlington, New Jersey, assignor to The Arlington Co.
 716,304. Fountain syringe. James H. Stearns, Brooklyn, New York.
 716,347. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.
 716,348. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.

- 716,349. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to the Kempshall Manufacturing Co.

Design Patent.

- 36,172. Hot water bag or similar article. Victor C. Van't Woud, Brooklyn, New York.

ISSUED DECEMBER 23, 1902.

- 716,426. Syringe. Alcinous B. Jamison, New York city.
 716,526. Syringe bulb. Richard H. Eddy, Providence, Rhode Island.
 716,590. Joint closer for rubber tire setting machines. Will C. State, Akron, Ohio, assignor to the Goodyear Tire and Rubber Co.
 716,668. Waterproof holder for flower pots. Laura P. Cheney, New Haven, Connecticut.
 716,693. Pneumatic inner tube for tires. Charles E. A. Esse, Ormskirk, England, assignor of one-half to James Hamilton Cobley, London, England.
 716,739. Horseshoe pad. Bernard M. Moore and George F. Ebert, Chicago, Illinois.
 716,784. Device for removing snow. James Sullivan, New York city.

Trade Marks.

- 39,546. Driving belts or bands. Loewitz & Rohlf, Altona-Ottensen, Germany. *Essential feature*.—The word "Hammonia" and a circle inclosing the head of a woman wearing a castellated diadem. Used since November 1, 1901.
 39,550. Rubber tires. William F. Beasley, New York city. *Essential feature*.—The compound word "Be-no-ca." Used since June 1, 1902.
 39,551. Horseshoes and horseshoe pads and blanks. Safety Horse Shoe Co., Ocean City, New Jersey, and Philadelphia, Pennsylvania. *Essential feature*.—The representation of a pair of superposed horseshoe shaped figures forming spaces between the sides of the same, with the letters "S H S" disposed in said spaces. Used since July 1, 1902.

ISSUED DECEMBER 30, 1902.

- 716,997. Resilient tire for wheels. Jean P. Le Grand, Levallois-Perret, France.
 716,945. Golf ball. Lawrence M. Selzer, Akron, Ohio.
 716,951. Cap or cover for jars. DeWane B. Smith, Deerfield, New York.
 717,229. Closure for inflatable devices. William F. Lott, Newark, New Jersey.
 717,263. Protector for rubber tires. Herbert R. Palmer, Cleveland, Ohio, assignor of one-half to Omar Stoppel, Cleveland.
 717,341. Bicycle tire cleaner. James B. Cahoon, Kansas City, Missouri.
 717,413. Playing ball. Eleazer Kempshall, Boston, Massachusetts.
 717,463. Device for holding tires. Clarence M. Starner, Alga, Pennsylvania.
 717,480. Vulcanizer. Alfred J. White, Akron, Ohio, assignor to the Williams Foundry and Machine Co., Akron, Ohio.

Trade Mark.

- 39,558. Dress shields. I. B. Kleinert Rubber Co., New York city. *Essential feature*.—The hyphenated word "E-ze-on." Used since December, 1901.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

[* Denotes Applications from the United States.]

APPLICATIONS—1902.

- 23,325. Patrick Alphonsus Martin, 24, Temple row, Birmingham. Manufacture of balls for games. Oct. 27.
 23,326. Patrick Alphonsus Martin, 24, Temple row, Birmingham. Manufacture of golf balls. Oct. 27.
 23,330. Thomas Frederick Atkinson and Henry Atkinson, 11, Burlington chambers, New street, Birmingham. Rubber heels. Oct. 27.
 23,371. Joseph Devonport Finney Andrews, Surrey. Electric cables. Oct. 27.
 23,402. James Harold Barry, 10, Basinghall street, London. Pneumatic tires. Oct. 27.
 23,404. Howard William Franklin, 56, Ludgate Hill London. Pneumatic cover for cycle saddles. Oct. 27.
 23,436. George Edward Shand, 70, Chancery lane, London. Fountain pens. Oct. 27.

- 23,447. Samson Fox, 46, Lincoln's Inn fields, London. Pneumatic tires. Oct. 27.
- 23,478. Patrick Alphonsus Martin, 24, Temple row, Birmingham. Golf balls. Oct. 28.
- 23,501. George Hunt and Thomas Stedman, 44, Temple street, Burnley. Water sprays for the nozzles of hose pipes for fire extinguishing. Oct. 28.
- 23,556. Pierre Germain, 45, Southampton buildings, Chancery lane, London. Treatment of waste Gutta-percha. Oct. 28.
- *23,571. George Harrison, of the firm of D. Young & Co., 11, Southampton buildings, Chancery lane, London. Dress shields. [Gertrude M. Grant, Joseph C. Grant, Herman A. Groth, and William L. Groth, United States.] Oct. 28.
- 23,575. William Whitfield Wiggins, 18, Buckingham street, Strand, London. Vehicle tires. Oct. 28.
- 23,588. Ernest Wright, 10, Salisbury road, Leicester. Rain shield for cycles. Oct. 29.
- 23,589. Thomas Higginson, 279, Oldham road, Rochdale. Rubber heel. Oct. 29.
- 23,607. Joseph Seel, Manchester. Prevention of tire punctures. Oct. 29.
- 23,637. George Henry Clark, 45, Southampton buildings, Chancery lane, London. Pneumatic tires. Oct. 29.
- 23,650. Margaret Maguire, 4, South street, Finsbury, London. Dress shields. Oct. 29.
- 23,654. Arthur Freemore Spooner, 323, High Holborn, London. Protective bands for rubber tires. [Maurice Francois Rondet, France.]
- 23,655. Gerald Morgan Neighbour, 323, High Holborn, London. Waterproof material and its manufacture. Oct. 29.
- 23,671. Harry Parsons, 67, Beechdale road, Brixton Hill, London. Anti-slipping and anti-puncturing tires. Oct. 30.
- 23,706. John Stephen Walley, Heath Cottage, Whitechurch, Salop. Covering India-rubber springs for saddles. Oct. 30.
- 23,707. Naomi Wood, Manchester. Pneumatic vehicle tires. Oct. 30.
- 23,746. Pierre Laurent, 99, Cannon street, London. India-rubber plug for pneumatic tires. Oct. 30.
- 24,066. Gabriel Kostin, 190 Stockwell road, Brixton, London. Flexible tires. Nov. 4.
- 24,162. Herbert Edward Cohen, Birmingham. Attachment of pneumatic tires to rims. Nov. 5.
- 24,185. Henry Vincent Holden, 47, Lincoln's Inn fields, London. Pneumatic vehicle tires. Nov. 5.
- 24,199. John Corlett, 46, Granby street, Liverpool. Sectional tires. Nov. 5.
- 24,210. Giuseppe Vincenzo De Luca, 323, High Holborn, London. Golf balls. Nov. 5.
- 24,231. Henri Falconnet, 6 Lord street, Liverpool. Resilient vehicle tires. Nov. 5.
- 23,232. Theron Clark Crawford, Clun House, Surrey street, Strand, London. Golf balls. Nov. 5.
- 24,252. Samson Fox, Leeds. Pneumatic tires. Nov. 5.
- 24,264. Henry Bancroft, Church, near Accrington. Pneumatic tires. Nov. 6.
- 24,267. Bernard Louis Freemant, 12, Holly avenue, Newcastle-on-Tyne. Heel pads. Nov. 6.
- 24,280. William Burns Shand and Andrew Morison, Glasgow. Golf balls. Nov. 6.
- 24,286. Thomas Burns and Jonathan Shackleton, Bradford. Pneumatic vehicle tires. Nov. 6.
- 24,308. Francis Murray Rogers, 21, Finsbury Pavement, London. Manufacture of golf balls. [H. T. S. Ward and Edgar George Money, Ceylon.] Nov. 6.
- 24,327. John Stuart Campbell, 4, Furnival street, Holborn, London. Pneumatic horseshoe pad. Nov. 6.
- 24,405. Robert Devereux Mothersole, 8, Quality court, Chancery lane, London. Construction of golf balls. Nov. 7.
- 24,479. The Cycle Rubber Co., Henry Keys, and Frederick Day, Birmingham. Band for repairing tire covers. Nov. 8.
- 24,522. Thomas Moore, 4 South street, Finsbury, London. Rubber soles. Nov. 8.
- 24,530. Lewis Johnstone, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Inner tubes for tires. Nov. 8.
- 24,534. Walter Wood and Thomas Henry Nicks Bartlett, 18 Buckingham street, Strand, London. Manufacture of golf balls. Nov. 8.
- 24,573. Edward Frankenberg, Manchester. Machine for vulcanizing waterproof fabrics. Nov. 10.
- 24,574. Edward Frankenberg, Manchester. Machine for vulcanizing waterproof fabrics. Nov. 10.
- 24,589. John Joseph Daily, Christ Church, New Zealand. Non-puncturable lining for pneumatic tires. [Date applied for under Patents act, 1901, Nov. 27, 1901, being date of application in New Zealand.] Nov. 10.
- 24,601. Hedley Tichborne Rayner and Charles Harry Moger, 11, Southampton buildings, Chancery lane, London. Apparatus for molding plastic materials. Nov. 10.
- *24,727. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Vehicle tires. [Franklin Greenawalt Saylor, United States]. Nov. 11.
- 24,739. Henri Falconnet, 6, Lord street, Liverpool. Resilient vehicle tires. Nov. 11.
- 24,755. Walter Claude Johnson and Joseph William Bass, Norfolk street, Strand, London. Electric cables. Nov. 11.
- 24,756. Walter Claude Johnson and Sydney Paterson, Norfolk street, Strand, London. Insulating material for electric cables. Nov. 11.
- 24,758. George Bascomb Dryden, 45, Southampton buildings, Chancery lane, London. Vehicle tires. Nov. 11.
- 24,773. The Long Acre Motor Car Co., Limited, Claude Maurice Browne, and Arthur Marshall Arter, 46, Lincoln's Inn fields, London. Manufacture of resilient tires and tire covers. Nov. 11.
- 24,847. Francis Knoefel, 39, Aseney crescent, Kentish Town, London. Dental vulcanizers. Nov. 12.
- 24,981. Hannah Plante, Birmingham. Rubber heels and soles. Nov. 14.
- 24,982. Thomas Herbert Smith Palfree, 35, Wright street, Nottingham. Wringing machines. Nov. 14.
- 25,008. Robert Walker, 55, Chancery lane, London. Strengtheners for vulcanite teeth bases. Nov. 14.
- 25,089. John Buchanan, Howard Natali and John Thomas Kellett, 17, Burnley road, Stockwell, London. Golf balls. Nov. 15.
- 25,156. James Harold Barry, 10, Basinghall street, London. Pneumatic vehicle tires. Nov. 15.
- 25,168. Robert William Edlin, Finlay Sinclair, and Edwin Louis Curbishley. Pneumatic tires. Nov. 17.
- 25,186. Mathew Montgomery, Jr., 100, Wellington street, Glasgow. Securing solid rubber tires to rims. Nov. 17.
- 25,189. The Aluminium Castings Co., Greenock. Pneumatic heel pads. Nov. 17.
- 25,200. Robert Blakoe, Penrith, Cumberland. Puncture proof tire. Nov. 17.
- 25,251. Harry Mountfort Wood, Draycott, near Derby. Puncture proof tire strip. Nov. 18.
- 25,304. Walter Clay Peters and William Bellamy, 9, Regent street, London. Pneumatic tires. Nov. 18.
- 25,374. William Draper Sainsbury, 60, Upper Sackville street, Dublin. Device for preventing side slipping of rubber tires. Nov. 19.
- 25,430. Vincent Kitabgi, Khon, 322, High Holborn, London. Protective band for pneumatic tires. Nov. 19.
- 25,447. Alfred Julius Boulton, 11, Hatton garden, London. Puncture proof device for pneumatic tires. [Georges Tupinier and Baron Robert Personne de Sennevoy, France.]
- 25,472. Sam Thomas Richardson and Richard Price, Birmingham. Manufacture of pneumatic tires. Nov. 20.
- 25,474. Peter Rostrom and William Walter Cooney, Manchester. Fire hose nozzles. Nov. 20.
- 25,485. George Boardman, Birmingham. Rubber tire covers. Nov. 20.
- 25,538. William James Green, 62, Kenton street, London. Heel pads. Nov. 20.
- 25,562. Alfred Thorneycroft Eardley, Stockport. Heel pad. Nov. 21.
- 25,573. Alfred John Purser. Stopper fitting for hot water bottle. Nov. 21.
- 25,601. Vernon Percy-Smith, Ludgate circus, London. Chain-armor tire cover. Nov. 21.
- 25,666. George Edward Heyl-Dia, Liverpool. Golf balls. Nov. 21.
- 25,705. James Holden, Burnley. Heel pads. Nov. 22.
- 25,724. John Dowell, 18, Southampton buildings, Chancery lane, London. Molds for rubber teats. Nov. 22.

PATENTS GRANTED.—APPLICATIONS OF 1901.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 15,980. Elastic cables. Hardingham, G. G. M., Clun House, Surrey street, London. [Feltin & Guillaume Carlswerk, A.-G., Mulheim-on-the-Rhine, Germany.] July 9, 1901.

- 14,492. Pneumatic tire with supplementary air cushion. Vinten, H. B., Elmside, Ramsgate, Kent. July 16, 1901.
- 14,556. Detachable cover for pneumatic tire. Preston, E. E., 73, Western road, Leicester. July 17, 1901.
- 14,623. Valve for pneumatic tire. Cockburn, J., North British Rubber Co., Castle Mills, Edinburgh. July 18, 1901.
- *14,651. Molding rubber tires having a rubber core. Whitaker, E. C., and Whitaker, F. P., No. 12 Ring street, Providence, Rhode Island, United States. July 18, 1901.
- 14,655. Waterproofing fabrics. Wiley, T. F., 47, Elmfield road, Upper Tooting, London. July 19, 1901.
- 14,750. Pneumatic tires and covers. Paulitschky, C., 14, Wienstrasse, Vienna, V., Austria. July 19, 1901.
- *14,762. Hose for air brakes and steam use. Courtney, W. J., No. 265 Central Park West, New York, United States. July 19, 1901.
- *14,860. Water bags for surgical use. Bailey, C. J., Newton, Massachusetts, United States. July 22, 1901. [Date applied for under section 103 of Patents, etc., act, 1883, Jan 3.]
- *14,891. Hose couplings for air brakes. Whiting, P., East Las Vegas, New Mexico, United States. July 22, 1901.
- 14,894. Artificial feet with pneumatic cushion. Walker, E. H., and Smith, M., Liverpool. July 22, 1901.
- 15,058. Making seamless rubber articles. Baxter, J. E., and Leyland and Birmingham Rubber Co., Leyland, Lancashire. July 24, 1901.
- 15,252. Pneumatic tire. Willis, V., 9, Rochester Terrace, Camden Town, London. July 27, 1901.
- 15,380. Pneumatic tires with internal repair strips. Sim, A. A., Collooney, Sligo, Ireland. July 30, 1901.
- 15,621. Waterproofing composition, involving the use of Pontianak. Thame, J., 10 Bath road, Hounslow, Middlesex. August 1, 1901.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1902.

- 136,623. Process for producing a material which is an electric insulator and waterproof. F. H. Bowden, London, England. Oct. 1.
- 138,274. Piston ring of hard rubber. Harburger Gummi-Kamm Co., Harburg. Dec. 3.

PATENTS WITH MODELS FILED.

- 187,597. Double cable for the explosion of mines, with conductors insulated by pressed Gutta-percha and covered by spun Pará rubber while a layer of linen thread treated with ozocerisine covers the whole. Siemens & Halske, Aktiengesellschaft, Berlin. Nov. 26.
- 187,304. A closed ring of hard rubber on outside, inside with elastic inflatable rubber lining for removing finger growths after they have been deprived of blood. Mrs. Franz Hugershoff, Leipsic. Nov. 26.
- 187,278. Window cleaner, having strips of soft rubber between clamps for use as a washer. Leo Zellner, Sarchen near Annahütte. Nov. 26.
- 187,226. Lead pencil holder of hard rubber. Fabrik für Gebräuchsgegenstände, Hennef near Sieg. Nov. 26.
- 187,453. Insert for shoes, made of rubber with metal spring or hard rubber reinforcement, as a cure for flat feet. Fritz Lochte, Hildesheim. Nov. 26.
- †187,643. Leaf turner; a rubber thimble or cap for the finger. Franz Ziegenbalg, Lentwitz near Dresden. Dec. 3.
- 187,925. Suspenders with inelastic webbing and elastic rear button flaps. Mrs. Gus. Wagener, Schwelm. Dec. 3.
- 187,926. Suspenders with inelastic webbing and elastic button flaps. Mrs. Gus. Wagener, Schwelm. Dec. 3.
- 187,385. Artificial foot with rubber heel. Joseph Dameris, Schmallenberg. Dec. 3.
- 187,640. Rubber syringe with a clamp between the collar and suspension ring. Fr. Hirschmann, Nürnberg. Dec. 3.
- 187,760. Tube with introductory slot for catheter clamp and separate tube for the introduction of antiseptic ointment. Dr. Willi Hirt, Breslau. Dec. 3.
- 187,644. Horizontal measuring wheel of celluloid or hard rubber. Richard Lehmann, Schoenberg. Dec. 3.
- 187,629. Running shoe for pneumatic tire with several layers of woven stuff separated by layers of elastic material. Louis Grenier, Berlin. Dec. 3.
- 187,771. Insert for air tires composed of side rings constantly decreasing in size towards the free end. Richard Lins, Berlin. Dec. 3.
- 187,830. Door buffer with iron body, cast about a screw, containing piece of rubber to receive the shock. W. Hensch & Co., Elberfeld. Dec. 3.
- 180,753. Suspenders with inelastic webbing and elastic front button flaps. Mrs. Gus. Wagener, Schwelm. Dec. 10.

- 187,820. Hair dryer, consisting of a rubber tube, moved by hand through warm air, is driven by a small water wheel. Otto Peter, Osnabrück. Dec. 10.
- 185,190. Apparatus for testing Caoutchouc. Gebrüder Freysinger, Riga-Sassendorf. Dec. 10.
- 185,221. Catching claw, with a rubber band or string for attaching a ball to the catching rod. Arthur Mauke, Ruttenscheid; and Fr. W. Engels, Essen o/Ruhr. Dec. 10.
- 185,443. Dress supporter, consisting of a double rubber band connected with two safety pins. Josef Spielmann, Cologne Lindenthal. Dec. 17.

APPLICATIONS.

- W 15,256. Process for producing a homogeneous mixture of Caoutchouc and organic colloids. Dr. C. O. Weber, Manchester, England, and A. Cairns, Glasgow, Scotland. Oct. 1.
- Z 3,431. Apparatus for dipping and drying articles made of rubber. Zieger & Wiegand, Leipsic. Oct. 1.
- A 8,779. Rubber hose with protecting asbestos insert. Asbest- und Gummiwerke, Alfred Calmon, Hamburg. Oct. 8.
- W 17,909. Overshoes of elastic form-retaining and waterproof material. John Friederich Wallmann & Co., Berlin. Oct. 8.
- S 16,672. Process for preserving cleansed Caoutchouc during transport and while in store. Silver and Dubois, Kalk, near Cologne. Oct. 15.
- E 8,226. Urethral syringe. Christopher Engelbreth, Copenhagen, Denmark. Oct. 22.
- M 21,365. Process for putting a covering of rubber on the textile parts of cloth shoes. Patrick Millar Mathew, Edinburgh, Scotland. Oct. 22.
- W 17,644. Elastic hollow rubber tire with full inner core. William Fr. Williams, London, England. Oct. 29.
- C 10,643. Pneumatic tire for wagon wheels and the like. Joseph McCanna, London, England. Oct. 29.
- 13,031. Rubber tire with insert of wood. Charles A. Pettie and Emma Cutler Pettie, Brooklyn, New York. Nov. 5.
- 18,613. Mouth-piece for irrigators, syringes, and the like. Henricus Wallace Westlake, Los Angeles, California. Nov. 12.
- 13,163. Pneumatic tire. G. W. Pitt and Edward Martin, London, England. Dec. 3.
- 10,039. Leaf turner in shape of finger stall. Johann Sieghold, Bremerhaven. Dec. 10.
- 28,630. Elastic button fastener for clothing and boots and shoes. Betty Heckl, Munich. Dec. 10.
- 17,300. Hollow rubber tire with lacings enclosing spiral springs. William Fr. Williams, London, England. Dec. 17.

UNITED STATES CUSTOMS DECISIONS.

THE United States general appraisers at New York have rendered a decision in the matter of the protest of A. H. Funke, against the decision of the collector of customs at New York, as to the weight and amount of duties chargeable on "white countered Gutta-percha fuse," imported March 4, 1902. The decision holds that fuses composed in chief value of Gutta-percha, used for blasting purposes by being connected with, and adapted to explode, a detonator, which in turn fires a fulminate, are not dutiable under paragraph 421, act of July 24, 1897, as fulminates, fulminating powder, or like articles, but are dutiable at the rate of 35 per cent. *ad valorem* under paragraph 450 of said manufactures in chief value of Gutta-percha. The protest is accordingly overruled and the decision of the collector affirmed.

The appraisers have overruled the protest of Samstag & Hilder Brothers regarding the classification of merchandise invoiced as elastic belting. A portion of the importation was returned by the appraiser as "silk, cotton, and India-rubber wearing apparel," and the remainder as "silk, cotton, and India rubber webbing." The importers claimed the goods to be in chief value of vegetable fiber. The board found at the hearing that silk was the component material of chief value. These belts were finished and ornamented with small steel stars, which penetrate the goods and are riveted on the reverse side.

THE TEXTILE GOODS MARKET.

THE new year in the cotton goods market opened under varying conditions. In attempting to inform the India-rubber trade as to the position of the cotton goods market it is much easier to tell where it will not be found for the next two months than to indicate the point where it will progress before the limit has been reached and something resembling stability in prices is established. It is hardly possible just now to keep pace with the rapid movement of values. To-day's range becomes the subject of radical revision to-morrow, and the average man can scarcely get his bearings, whether buyer or seller. The entire trade is in a fever of expectancy and uncertainty. It is possible to find sellers who would wish to be released from contract obligations, despite the fairly good return, for they feel that it would be more profitable to sell now than it was in September last, when most of the rubber manufacturers placed their orders for the year. Perhaps this sort of reasoning would be more pertinent if certain conditions existed to give force to it; but they do not exist, and it is still the belief that the seller is better off with an assured outlet for his product for the next year than he would be if business was not in concrete form and subject to the capriciousness of the buyer.

In connection with the raw cotton market, Alfred B. Shep-erson, an undisputed authority, declares that, from present indications, the crop will not exceed 11,000,000 bales. Of late the market has been only moderately active, although prices have displayed remarkable firmness. Ever since New Year's prices have been gradually advancing. The strength has been almost wholly due to the smallness of receipts and the generally strong statistical position of the staple. The world's visible supply is gradually decreasing as compared with last year's total. These facts furnish the "bulls" rather good material to work with, although thus far they do not seem to have developed the possibilities to a great extent. There is no better barometer of the market's strength, viewed from the standpoint of the rubber manufacturers, than the fact that the latter are advancing the price of their products. They contend that it will be impossible for them to maintain the present standard of quality without realizing more money for their goods.

During the past month there has been a very marked improvement in the demand for sheetings from the manufacturers of rubber boots and shoes, and the prices paid have been from $\frac{1}{8}$ to $\frac{1}{4}$ cent per yard advance over the prices asked in December. Prices made are for spot supplies for which the demand has been running principally, for some weeks. The following figures will show the comparative cost of sheetings during the past three years in the local market:

	1903.	1902.	1901.
Forty-inch, 2.50.....	63 $\frac{1}{2}$ c.	61 $\frac{1}{2}$ c.	63 $\frac{1}{2}$ c.
Forty inch, 2.70.....	66c.	53 $\frac{1}{2}$ c.	61 $\frac{1}{2}$ c.
Forty-inch, 2.85.....	58 $\frac{1}{2}$ c.	51 $\frac{1}{2}$ c.	53 $\frac{1}{2}$ c.
Forty-inch, 3.60.....	45 $\frac{1}{2}$ c.	45 $\frac{1}{2}$ c.	51 $\frac{1}{2}$ c.
Thirty six inch, 3 yard 51 $\frac{1}{2}$ c.....	51 $\frac{1}{2}$ c.		54 $\frac{1}{2}$ c.

The following figures show the price of spot cotton at the ports of New York, New Orleans, and Liverpool on Wednesday of each week in January:

	New York.	New Orleans.	Liverpool.
January 7.....	8.90c.	8 $\frac{1}{4}$ c.	4 78d.
January 14.....	8.85c.	8 $\frac{1}{4}$ c.	4 70d.
January 21.....	8.95c.	8 $\frac{1}{4}$ c.	4 80d.
January 28.....	9.00c.	8 $\frac{3}{4}$ c.	4 8cd.

The demand for feltings during the month has been exceptionally good, and sellers have been compelled to ask consumers to use a little patience in the event that deliveries are not made to suit them. The Joseph Wild Co. have been making

some extensive additions to their facilities, in hope to better cope with the fast growing demand for their product.

The textile manufacturers of Canada are pushing their campaign to force the Canadian government to increase the tariff schedule in its application to cotton goods. They have been issuing literature and obtaining signatures to monster petitions which are to be presented to parliament at its next meeting. Their object is to raise a great popular tariff cry, which will be at its zenith about the time that parliament convenes. A rich "lobby" is to be sent to Ottawa, and there are expressions of confidence that, despite objections from rural constituencies, the house of commons will erect a much higher tariff wall.

RECLAIMED RUBBER AND RUBBER SCRAP.

THE market for reclaimed rubber during the past year has not exhibited such fluctuations as have occurred in connection with crude rubber, which in itself would hardly be an occasion for remark, since these two lines do not always keep together in the matter of price. It might be well, however, for rubber manufacturers to pay careful attention to the present situation with respect to reclaimed rubber, which has become so important an item of raw material for the American rubber industry. The steady growth in the production of rubber goods has called for a proportionately larger amount of reclaimed rubber, and since the capacity for the production of this material is limited, a higher range of values in the near future should not occasion surprise. Besides, crude rubber has ruled low, comparatively, during most of the year, and a general advance in all grades is likely to lead to a wider consumption of reclaimed stock in certain branches of the industry, which would prove an additional force in advancing prices of the latter. While the total volume of rubber goods going into consumption increases year by year, the chief basis thus far for the production of reclaimed stock is the supply of old rubber shoes. It is pointed out by a member of the reclaiming trade that an increasingly large proportion of the reclaimed rubber produced is going into products of a class which do not again contribute anything to the rubber scrap market. This is notably true of insulated wire, carriage cloth, and some other goods which, as everybody knows, never figure in rubber scrap, while another large proportion goes into lines of mechanical goods which have not yet been successfully devulcanized, whatever may prove true in future.

To sum up, therefore, the tendency in reclaimed rubber is toward the extension of the demand at a more rapid rate than the increase in the collection of its principal source—rubber shoe scrap. The fact that reclaimed rubber prices have not advanced materially during the past year has been due to the even tenor of the rubber scrap market. This latter fact has been due in part, no doubt, to conditions which have been growing up in the reclaiming trade, whereby consumers of scrap have accumulated large stocks and have been rendered independent of the market to the extent of not being obliged to buy whenever prices showed a tendency to rise. The result has been to keep prices of scrap down below the figures which prevailed two or three years ago, and, correspondingly, reclaimed rubber prices have remained lower than at the time referred to. With an increased demand, however, and without increased supplies, these conditions cannot exist continuously, for which reason manufacturers of rubber goods may find themselves forced in the not distant future to figure on higher prices for reclaimed stock.

Our quotations on rubber scrap at New York show no increase over those printed last month

NEW TRADE PUBLICATIONS.

THE UNITED STATES RUBBER CO. (New York) issued their illustrated Catalogues and Price Lists of Rubber Boots and Shoes this year on January 1, as was the case last year, after having previously issued them annually on April 1. These catalogues are of the usual character, and their contents will be referred to in greater detail in another part of this paper. As in the past, these catalogues are got up with a view to attractiveness in appearance, and the company's advertising manager, Mr. John P. Lyons, deserves renewed mention for the success which he has maintained in bringing out original and pleasing features with each new season. The catalogues received are those of the American Rubber Co., the L. Candee & Co., Woonsocket Rubber Co., Goodyear's Metallic Rubber Shoe Co. (Wales Goodyear), a catalogue of the "Jersey Co." brand, and another of "Meyer" and "Jersey" brands combined. These catalogues are $3\frac{1}{8}'' \times 6''$ in size, and from 16 pages (Jersey) to 63 pages (Wales Goodyear).

BOSTON RUBBER SHOE CO. begin their fiftieth year with the issue of an illustrated Price List arranged on new lines, but embracing the usual details in convenient form for reference. It has a tasteful cover and calls attention to the growth of their daily production from 600 to 55,000 pairs of boots and shoes. [$6\frac{3}{4}'' \times 6''$ 32 pages.]

GOODYEAR'S INDIA RUBBER GLOVE MANUFACTURING CO. (New York) issue an illustrated priced catalogue of rubber boots and shoes. [$3\frac{1}{8}'' \times 6''$ 64 pages.]

LYCOMING RUBBER CO. (Williamsport, Pennsylvania) in their Catalogue and Price List of "Lycoming" and "Keystone" brands of rubber footwear, call special attention to the addition of "extension heels" to new lines. [$3\frac{1}{4}'' \times 6''$ 64 pages.]

THE JOSEPH BANIGAN RUBBER CO. (Providence, Rhode Island) issue an illustrated catalogue of "Banigan" and "Woonasquatucket" brands, with net prices. [$3\frac{1}{8}'' \times 6''$ 48 pages.] Also, a gross price list of 16 pages.

HOOD RUBBER CO. (Boston, Massachusetts), in their illustrated catalogue of rubber boots and shoes, mention the growth of their production from 3000 pairs daily in 1896 to ten times that figure at present. [$3\frac{1}{4}'' \times 6\frac{1}{8}''$ 64 pages.] An accompanying price list fills 16 pages.

BEACON FALLS RUBBER SHOE CO. (Beacon Falls, Connecticut) include in their new net Price List of rubber boots and shoes, a very full line of "Combinations." [$4'' \times 7''$ 31 pages.]

APLEY RUBBER CO. (Hudson, Massachusetts), pending the issue of their illustrated catalogue, have sent out a gross Price List, dated January 1. [$3\frac{1}{4}'' \times 6''$ 12 pages.]

LAMBERTVILLE RUBBER CO. (Lambertville, New Jersey) issue an illustrated net Price List of E. Stout's patent "Snag-proof" rubber footwear for 1903. [$3\frac{1}{8}'' \times 6''$ 24 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, are sending out a handsomely got up priced catalogue of Yachting, Tennis, and Lacrosse Shoes. [$3\frac{3}{4}'' \times 5\frac{1}{2}''$ 12 pages.]

THE B. F. GOODRICH CO. (Akron, Ohio) issue a catalogue of Goodrich Clincher Tires for automobiles and other vehicles, which is fully illustrated with sectional views, showing all the details of construction, and other illustrations indicating the proper method of applying these tires with a view to obtaining the best service from them. [$5\frac{3}{4}'' \times 8\frac{1}{2}''$ 28 pages.]—Also a catalogue of Palmer Tires, Goodrich Tires, and Rubber Bicycle Sundries. The Goodrich company manufacture a number of tires—M & W. and G & J., for example—under license, so that this firm is prepared to fill any want in the way of bicycle tires and sundries. This catalogue embraces the Pickett all

rubber valve, which has been fully described in THE INDIA RUBBER WORLD. [$5\frac{3}{4}'' \times 8\frac{1}{2}''$ 24 pages.]

THE EUREKA RUBBER MANUFACTURING CO. (Trenton, New Jersey), lately organized, issue a Preliminary Catalogue of India-Rubber Goods for Mechanical Purposes (belting, hose, tubing, packing, etc.), with prices. [$3\frac{1}{2}'' \times 6\frac{1}{2}''$ 24 pages.] They announce that a very complete catalogue is in course of preparation, and invite requests for it.

GOODYEAR RUBBER CO. (St. Paul, Minnesota) devote their Catalogue No. 194, to "Gold Seal" and "Goodyear" Overshoes—brands which have long been in the market, maintaining a high position in the face of the strongest competition. The catalogue includes also rubber heels and soles. [$4\frac{1}{4}'' \times 7''$ 40 pages.]

NORTH BRITISH RUBBER CO., LIMITED, (Castle Mills, Edinburgh, Scotland) issue a Price List of mechanical rubber goods which covers a very wide line, including, besides belting, hose, and packing, many such articles as railway buffers, gas bags, golf tees, press rolls, billiard strips, carriage brake blocks, rubber buckets, bellows strainers, strips for ship port lights, horse-shoe pads, tires and so on—covering practically the whole line of rubber goods in the mechanical branch. Prices are given in great detail, and the book is amply illustrated, but it lacks much of the descriptive matter which it is customary to include in the lists of American manufacturers. [$7\frac{3}{4}'' \times 9\frac{3}{4}''$ 32 pages.] The illustrated catalogue and price list of Overshoes, Boots, and Canvas Shoes issued by the same company comes to us with amended prices. It also includes waterproof goods in extensive variety, especially mackintoshes for men and women. [$7\frac{1}{2}'' \times 9\frac{5}{8}''$ 32 pages.]

WE have referred already to the completeness and general excellence of the catalogue of the LEIPZIGER GUMMIWAAREN-FABRIKEN, AKTIENGESellschaft, vormals Julius Marx, Heine & Co. (Leipzig), a long established firm whose specialty is the class of goods known in the United States as druggists' sundries. It is interesting to note, as an indication of the growing importance of the export trade of this house, that they have just issued an edition of their entire catalogue in French, comprising 400 large pages, and listing 7440 items of goods, with many hundreds of illustrations of typical articles in the various lines manufactured by them. The Leipzig firm are represented in Paris by Mons. S. Walter, 7, Passage Saulmier.

THE export house of A. BAUMERT (Mühlenstrasse 68A, Berlin, Germany), established in 1859, sends an illustrated price list of rubber goods devoted chiefly to what are called druggists' sundries in the United States, and embracing not a few articles of American manufacture, including water bottles, syringes, and the like. [$7\frac{1}{2}'' \times 11''$ 24 pages.]

THE DURHAM RUBBER CO., LIMITED (Bowmansville, Ontario), in addition to a new edition of their full catalogue of mechanical rubber goods, preceding issues of which have been noticed in THE INDIA RUBBER WORLD, send us a Hose Price List [$6\frac{1}{4}'' \times 3\frac{1}{2}''$ 12 pages] and a folder describing their "Durham" and "Czar" rubber heels.

ALSO RECEIVED.

BOSTON Belting Co. (Boston) = Fire Hose for Factory and Mill Protection. 4 pp.

The Stein Double Cushion Tire Co., Akron, Ohio. = [Descriptive pamphlet]. 8 pp.

R. D. Swisher Manufacturing Co., Nos. 152-154 Fifth Avenue, Chicago. = Special Catalogue and Net Price List of Rubber Stamps. 48 pp.

The La Crosse Rubber Mills Co., La Crosse, Wisconsin. = [Folder describing the "Indian Hill" brand of mackintoshes] 9 pp.

L. E. Waterman & Co., No. 157 Broadway, New York. = A Book About [Fountain] Pens. 24 pp.

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER SHOE JOBBERS IN CONVENTION.

THE annual meeting of the Western Association of Shoe Jobbers in Chicago, on January 5, was well attended by representatives of the rubber shoe selling agencies and jobbing houses throughout the territory covered by the association. The belief was expressed that selling prices would be maintained and an exceptionally good year's trade was predicted. The old officers were reelected, Mr. Orlando C. Smith, of the Smith-Wallace Shoe Co. (Chicago), being chosen president for the fourth term. At the banquet in the evening, attended by 98 guests, the first toast was in honor of Mr. E. S. Converse, president of the Boston Rubber Shoe Co. At a meeting of the Eastern Association of Shoe Jobbers, in Boston, on January 14, it was agreed to adopt the same selling discount as prevailed last year, which means no cutting of prices.

SWEET TIRE AND RUBBER CO. (BATAVIA, N. Y.)

At a directors' meeting on January 3, Frank Richardson was elected president, Ashton W. Caney vice president, John M. Sweet secretary, and George E. Perrin treasurer. Mr. Richardson was until recently president of the Batavia Carriage Wheel Co.; Mr. Sweet, superintendent of that company, and Mr. Caney a traveling salesman for it; and Alderman Perrin lately disposed of a cigar business, in which he had been engaged for nineteen years, to accept his new position. Mr. Sweet is the patentee of a solid rubber vehicle tire now on the market, and has invented processes for making and applying tires. Work is progressing on the company's factory, and all the machinery is reported to have been shipped by the makers. The company will begin by making tires, with a view to adding other lines of rubber manufacture. They obtained a New York charter on August 21, 1902, with an authorized capital of \$80,000.

MORGAN & WRIGHT (CHICAGO.)

A STRIKE at the factory of this company was formally declared at an end at midnight on January 3. The cause of the strike involved no question of hours or wages, but it was charged by the labor unions that when men were laid off, in dull seasons, the highest priced were selected. A sympathetic strike at the Chicago Rubber Works followed, and the teamsters' union assisted by refusing to do any hauling for either factory. The end of the strike followed the adoption of an agreement that in the laying off of employes in any department, those longest in service in that department shall not lose any time in preference of any new employé, providing that in all cases they are competent and reliable.

AMERICAN BICYCLE CO.

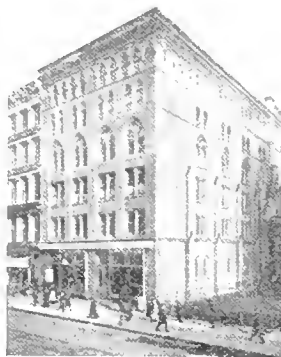
REFERRING to the plans for reorganization outlined in the last INDIA RUBBER WORLD [page 137] it may be added that during January the reorganization committee announced that, more than a majority of the outstanding debentures and a large amount of stock of both classes having been deposited with the committee, the plan had become operative. Under date of December 30 a "debenture holders protective committee" issued a call for a deposit of securities under a plan in opposition to that of the reorganization committee, but later this call was withdrawn. A published report states: "When the committee took hold of the American Bicycle Co. they found it in debt, with no working capital, and members of the committee and Colonel Albert A. Pope have already loaned

the company \$750,000 for working capital, taking receivers' certificates and notes of the company for collateral."—It was announced on January 26 that about 95 per cent. of the debentures had been deposited under the agreement, and that the time for deposit had been extended to February 2, inclusive. The reorganization plan has been modified by providing that the second preferred stock shall be entitled to dividends at the rate of 5 per cent. cumulative after February 1, 1903, instead of 6 per cent. non cumulative.

REMOVAL OF THE HODGMAN RUBBER STORE.

THE Hodgman Rubber Co. (New York) will occupy from this date a new location for their store and offices, at Nos. 806 808 Broadway. In the building immediately north of the grounds attached to Grace church they have secured the entire ground floor, 50 x 230 feet, and extending from Broadway to Fourth avenue. The course of Eleventh street across town is interrupted by this block, so that the firm make prominent in their announcements, as an indication of their location that will be easy to remember, that they are "opposite Eleventh street." The house of Hodgman, founded in New York by Daniel Hodgman in 1838, is the oldest rubber business in continuous existence in the United States.

Beginning at the intersection of Nassau street and Maiden lane, when that was a central position in the mercantile trade of New York, the Hodgman Rubber Co. have kept pace with the gradual progress uptown of the business center. Finding themselves recently compelled by the growth of their business to seek larger quarters, they have not only met this condition in the choice of their new location, but have gained a more desirable situation for the carrying on, at the present time, of the branch of business in which they are engaged, besides securing a store more creditable to the company.



In addition to their new store being so spacious, it is exceptionally well lighted, having the advantage of a row of windows overlooking the churchyard. The Hodgman Rubber Co., during their long existence, have gradually added to their lines of production until they now embrace an unusually large number and varied character of goods, a new catalogue of which is now being prepared for the trade. The accompanying cut gives a good view of the Broadway front as one looks northward.

COAL SHORTAGE AT AKRON.

A CORRESPONDENT OF THE INDIA RUBBER WORLD writes: "The general shortage of fuel in Akron and elsewhere has seriously inconvenienced all the local rubber manufacturers. Through a great part of January they had a hand-to-mouth existence in this respect, buying coal in whatever quantities and at whatever prices they could. One large concern had men in the field all the time in search of fuel. The rubber companies as well as other manufacturers have, as a rule, contracts with mine operators, but the latter have been selling their output

elsewhere at higher prices, instead of meeting their contract obligations. Some factories have been obliged to shut down, but none of the rubber concerns reached this point, and the famine is now virtually over."

THE OHIO RUBBER CO. (CLEVELAND, OHIO).

THIS company on January 1 purchased the Cincinnati branch of the Cleveland Rubber Works (of the Mechanical Rubber Co.). Under the new arrangement they have a much larger territory. They have increased their capital to \$175,000. They will employ three or four traveling men with headquarters at Cincinnati, and ten at Cleveland, including city salesmen. H. B. Hallock, who had been manager of the Cincinnati branch, will continue in charge there. The *personnel* of the company is about the same as before, the directors being: W. E. Byrnes (president and manager), H. B. Hallock (vice president), W. D. Hunt (secretary), E. C. McKay (treasurer), and W. E. Crofut.

FAILURE OF A SUIT FOR DAMAGES.

A SUIT for damages against The B. F. Goodrich Co. (Akron, Ohio), which was in many respects a test case, was won by that company on January 23, after a trial which lasted more than two days. David Davis, an employé of the company, was injured while working at a calender in their factory on April 10, 1899, with the result that his left arm had to be amputated. He sued for \$30,000 damages, early in 1900, and the case came to trial on January 21 last. Davis alleged that it was through the negligence of the company and defects in the machinery that he was hurt. The defense was that he knew the nature of his work and of the machinery on which he was employed, and was hurt by his own negligence. Davis preferred a contest to a settlement out of court, but failed to prove to the jury that the machinery was defective.

UNITED STATES RUBBER CO.

ACCORDING to a New York financial paper, the earnings of this company (including subsidiary companies) for twelve months ended November 30, 1902, were \$1,284,320; interest paid, \$772,214; depreciation charged off, etc., \$351,131; total charges, \$1,123,345; surplus, \$160,975. The company reported for the regular business year ended March 31, 1902, net earnings of \$1,182,596; all interest, \$1,663,100; surplus, \$119,496.

MR. PLACE AND THE METROPOLITAN RUBBER CO.

[See THE INDIA RUBBER WORLD, January 1, 1903—page 135.]

THE Connecticut superior court, at New Haven, on January 2, granted the motion of attorneys for Charles A. Place, of New York, for permission to withdraw the suit of Place to recover \$27,000 from the Metropolitan Rubber Co. (in liquidation), alleged to be due him as salary as president of that company for three years, and unpaid. The suit of Mr. Place was brought originally in New York, but was transferred to New Haven as part of the legal proceedings incident to winding up the company's affairs. It is reported that Mr. Place's claim has been settled outside the courts.

RUBBER WORKERS' UNION.

BOSTON has been selected as headquarters for the Amalgamated Rubber Workers' Union of America, organized on November 6, 1902, at Washington city, under a charter from the American Federation of Labor, authorizing the organization of persons engaged in making "rubber footwear of every description, hose, tires, drug and surgical articles, tapes, capes, hats, cloaks, clothing, mechanical goods, and every other article in the manufacture of which rubber is included." Thomas J. Edwards, president of the rubber workers' union already existing at Cambridge, Massachusetts, and president of the Cambridge Central Labor Union, is the general president of the new national rubber workers' union, Clarence E. Akestrom, of the

rubber workers' union at Concord Junction, Massachusetts, has been elected general secretary-treasurer. A national convention of the new union is talked of for Akron, Ohio, probably in June next.

LAST OF THE MODEL RUBBER CO.

THE plant formerly owned and operated by this company at Woonsocket, Rhode Island, has been purchased by the Macrodri Fiber Co., who will manufacture a pulp bobbin. The Model Rubber Co. were incorporated July 14, 1899, under Rhode Island laws, with \$100,000 capital, to manufacture rubber footwear, by Patrick J. Wren, Thaddius B. Brennan, and Frederick Hadfield. A factory was erected and equipped at a cost of \$43,000, and the making of third grade shoes was begun early in January, 1900—daily capacity 1800 pairs. The factory was leased May 24, 1901, to the Empire State Rubber Co., who went into bankruptcy before the end of the year. The factory and its contents were purchased August 21, 1902, by Fred L. Smith, and afterward remained idle.

THE PEOPLE'S HARD RUBBER CO.

AT Akron, Ohio, on January 24, suit was filed by Jennie E. Coburn against the American Hard Rubber Co. and Fritz Achelis; George G. Allen, J. J. Freeman, H. E. Address, L. D. Brown, and F. H. Waters, as directors of the People's Hard Rubber Co.; James W. Hoffert, the assignee of the company; and Colonel George T. Perkins, trustee of certain stock in that company. The plaintiff alleges ownership of 14 of the 1395 shares of the People's Hard Rubber Co. which have been issued, 1270 shares of which are alleged to have been sold to Fritz Achelis. She alleges further that the American Hard Rubber Co. is organized to control the hard rubber trade restrict competition and exact exorbitant prices, and further alleges in regard to the recent change of control of the People's Hard Rubber Co., its subsequent reorganization, and the assignment on December 31, that these proceedings were unnecessary and illegal, and in pursuance of a policy of restricting trade by shutting out the competition of the People's company. The plaintiff asks judgment for \$2800, under the anti-trust law of Ohio, that sum being twice the par value of the stock she holds, and which she is entitled to collect in the event of winning the suit. Musser & Kohler, attorneys for the plaintiff, state that they are preparing to begin other similar suits against the same defendants.

On November 11, 1902, a contract was signed under which I. C. Alden and George C. Kohler, directors of the People's Hard Rubber Co., agreed to deliver 1270 shares of that company's stock to Fritz Achelis, at a value to be fixed by appraisal. The American Appraisal Co. (Chicago), being employed, reported assets amounting to \$279,501.32, from which was deducted the liabilities, and the holders of 1270 shares were paid something like 55 per cent. of their par value, an additional 10 per cent. being withheld pending the collection of accounts receivable. Mr. Achelis being a non resident, it was agreed that the transfer should be made through Colonel George T. Perkins, a director in the American Hard Rubber Co., as trustee. The factory was taken in charge by J. J. Freeman, of the New York office of the American Hard Rubber Co., and has since remained closed. On November 29 H. E. Address was elected president of the People's Hard Rubber Co., F. H. Waters vice president, and J. J. Freeman secretary and treasurer—the first two being members of an Akron law firm—to whom one share of stock each had been transferred. On December 31 James W. Hoffert, of the same law office, presented to the directors demand notes for \$100,000, and a deed of assignment was filed the same day, Hoffert being named as assignee. Following the assignment appraisers were appointed, who made a report on January 19, and the assignee

made application for an order of sale of the property. Notice of exceptions to the issuance of such order was given by attorneys claiming to represent certain stockholders, but the exceptions have not yet been placed on record. The reason given, however, was that the new appraisal was too low—showing only \$148,851 of assets. Dissatisfaction is expressed among the stockholders who did not dispose of their holdings, and among the original promoters and managers of the People's company. The former claim that their interests were jeopardized by the assignment, and the latter aver that their credit has been injured by the assignment of the People's company, inasmuch as it had never been announced that they were no longer connected with the company, and that new officers were in charge.

The Coburn suit, noted above, is the first action of record instituted by the dissatisfied stockholders. The People's Hard Rubber Co. were incorporated under the Ohio laws in April, 1901, with \$200,000 capital, and organized in the office of Musser & Kohler, named above, on April 12. George C. Kohler was elected a director and general counsel for the company. Work was begun at the factory early in 1902, and the company were reported to be doing a good business until November 17, when the factory was closed, it being rumored at the time that the American Hard Rubber Co. had purchased control.

GROWTH OF THE RUBBER STAMP TRADE.

BASED upon confidential statements made to it by several leading houses, *The Commercial Stamp Trade Journal* (Chicago) estimates the volume of the stamp and stencil trade in the United States during 1902 at \$6,500,000, being an increase of 25 per cent. over the year previous. Manufacturers of such goods, generally, have increased their facilities, and for the most part prices have been fair and reasonable. The greatest output is in the shape of rubber stamps and rubber type, followed closely by stencils and checks, and then numbering machines, perforators, and the like. The rubber stamp and stencil trade is also important in other countries. The four great centers of the industry are New York and Chicago, in the United States, and London and Berlin. Another journal devoted to this trade is published at Frankfurt o/Main, Germany.

NEW INCORPORATIONS.

GORDON MANUFACTURING CO. (Harrisburg, Pennsylvania), December 23, 1902, under Pennsylvania laws; capital \$25,000. Francis H. Gordon, president and manager; J. W. Bowman, treasurer; H. H. Bowman, secretary. The Gordon company have been in business as a copartnership for about five years, manufacturing linen interlined "rubber" collars and cuffs. They have been successful, making one addition after another to their capacity, and have now increased their capital. They advise *THE INDIA RUBBER WORLD*: "We have not made any celluloid novelties heretofore, but we have embodied that in our charter, as we intend, in the near future, to enter into the manufacture of celluloid novelties of different descriptions."

=Certificates of incorporation under the laws of Massachusetts were granted January 10 to the Shawmut Rubber Co. and the Massachusetts Rubber Co., both of Boston, with \$5000 and \$2000 capital, respectively. The incorporators were the same in the case of both companies: Bertram Lord, Robert L. Rice, and Francis S. Dane. Mr. Lord is president of both companies and Mr. Rice treasurer. The object of these companies is to deal in rubber boots and shoes, the sales being in charge of Chester J. Pike. It is understood that the goods sold will be made under contract by one of the large factories, in two grades, branded "Shawmut" and "Massachusetts" respectively.

TRADE NEWS NOTES.

THE annual meeting of the stockholders of the New York Rubber Co. was held in New York on January 27.

=George C. Smith has been appointed general superintendent at the factory of the New York Rubber Co., to succeed Thomas S. Judson, whose death was reported in *THE INDIA RUBBER WORLD* of December last. Mr. Smith has been employed by the company for many years.

=The trustees for the holders of the first mortgage 6 per cent. bonds of the Mechanical Rubber Co. have advertised their readiness, under authority of the mortgage, to expend \$55,853 75 in the purchase of bonds, provided the same can, in their opinion, be made advantageously on February 1, at the offices of the Knickerbocker Trust Co., New York.

=Ernest H. Brandt has resigned as manager of the two branches in New York city of the Hartford Rubber Works Co., to become manager of the United States Fastener Co., which controls most of the patents on fasteners for gloves and the like, with headquarters in New York. Mr. Parker has been connected with the Hartford company since 1901. He will be succeeded at their New York branches by Robert B. Parker, who has been hitherto at the Hartford factory.

=The suit of Morgan & Wright v. Pennsylvania Rubber Co., for alleged infringement of patent in making the pinched end inner tube for bicycle tires, has been decided for the defendants in the United States circuit court for the western district of Pennsylvania.

=The Pennsylvania Rubber Co., on changing their location from Erie to Jeannette, Pennsylvania, removed their machinery to the new plant. The real estate occupied at Erie has been sold.

=M. J. Burke will represent the Eureka Fire Hose Co. (New York) hereafter in the sale of their standard brands of fire hose to the fire departments in California, Oregon, Washington, and adjacent territory, with headquarters at No. 573 Market street, San Francisco.

=The Combination Rubber and Belting Co. (Bloomfield, New Jersey) have opened a store in Chicago, at No. 198 Randolph street. Mr. E. F. Norton, who was formerly with the Pennsylvania Rubber Co., has charge of the same, and has engaged for his head salesman Mr. Beck, who was also with the Pennsylvania company.

=The Chicago branches of the United States Rubber Co. and the United States Rubber Co. have been consolidated, at Nos. 244-246 Monroe street, with Charles B. Allen in charge. The Baltimore agencies of the two companies have also been consolidated, at No. 102 Hopkins place, with W. H. Jones as selling agent.

=H. G. Armstrong, formerly representative of the United States Rubber Co. at Baltimore, and later in Chicago, is now at the general offices of the company in New York, as selling agent for the Candee brand of goods.

=The machinery used by the Milltown India Rubber Co. (Milltown, New Jersey) has been removed, part going to the New Brunswick factory of the United States Rubber Co., and part to Malden, Massachusetts.

=M. M. Converse has become connected with the New England trade of the Beacon Falls Rubber Shoe Co., with headquarters at the company's Boston store. Mr. Converse was the senior partner in the firm of Converse & Pike—since succeeded by the Tremont Rubber Co. (Boston)—when ill health compelled him to retire from business.

=The Pittsburgh Asbestos Reduction Co. have been incorporated in Pennsylvania, to make insulating products of asbestos, freed from iron by a new process, and rubber.

=The Hartford Rubber Works Co. of late have added to their production several lines of goods other than tires, and it is now reported that they will place upon the market a new rubber heel.

=The Goodyear Rubber Co.'s factory at Middletown, Connecticut, began working on a five day schedule on January 19.

=The Linthicum Rubber Co. (Baltimore, Maryland) handlers of the "Banigan" and "Woonasquatusket" footwear, have removed to larger quarters, at No. 25 Hanover street, where they occupy six floors, 30 x 165 feet.

=The Chicago branch of Edward R. Rice, which has the selling agency for the Joseph Banigan Rubber Co., will continue to be operated under the old name, for the reason that the proposed change of name to the Banner Rubber Co. would conflict with another concern in the same territory.

=The ninth annual banquet of the Mishawaka Woolen Manufacturing Co. (Mishawaka, Indiana), on the evening of January 7, was attended by the officers and directors of the company, nearly 100 salesmen, and a number of invited guests. Among the speakers was Mr. E. A. Saunders, manager of the rubber department, who outlined the policy of the company and its plans for the future.

=William F. Mayo & Co. (Boston, Massachusetts) are congratulating themselves over the fact that their business for 1902 was the largest done by any concern in the United States, jobbing rubber boots and shoes, and this too whether exclusive handlers of rubber goods or part leather and part rubber. Their net sales for the year amounted to \$1,234,000.

=A newspaper at Woonsocket, Rhode Island, referring to the busy times in the Woonsocket Rubber Co.'s factories, mentions a report that an order for 30,000 pairs of rubber boots had been received at the company's Millville factory, though the newspaper could not verify it.

=The Stoughton Rubber Co. (Stoughton, Massachusetts) have discontinued the sale of rubber boots and shoes. They have carried hitherto the "Boston" lines.

=William H. Holmes, who for thirteen years has been connected with Morgan & Wright (Chicago), and who is an expert on molds, dies, and rubber machinery, has started an up-to-date plant for the manufacture of machines, molds, presses, etc., at No. 218 East Washington street, Chicago. Mr. Holmes has associated his brother with him, the firm name being Holmes Brothers.

=A strike occurred early in January in the press room of the Dickinson Hard Rubber Co. (Springfield, Massachusetts), the strikers objecting to a new order placing all the men in the room on day wages, instead of giving some of them piece work. On January 10 it was announced that the places of the strikers had been filled. The company declined a proposition to arbitrate.

=The Knickerbocker Trust Co. (New York) will pay interest on the first mortgage 6 per cent. bonds of the Safety Insulated Wire and Cable Co., on and after February 2.

=The Phillips Insulated Wire Co. (Pawtucket, Rhode Island) are reported to be contemplating the erection of a manufacturing building, of brick, one story, 175 x 50 feet, to cost \$50,000.

=William H. Cummings & Sons (New York), dealers in rubber waste, have removed from No. 48 to Nos. 54-56 Harrison street. Their correspondence should be addressed, as before, to Postoffice box 732.

=An official of the Goodyear Tire and Rubber Co. informs the Akron (Ohio) *Times-Democrat* that the number of orders placed for bicycle tires indicates that as many wheels as last year will be placed on the market this spring.

=S. F. Denny recently resigned the position of manager of the Quaker City Rubber Co.'s store at Chicago, which he had held for nearly seven years, and with G. A. Coffey, of Grand Rapids, Michigan, a rubber salesman of long experience, has purchased the rubber store of E. B. Silliman, No. 204 Woodward avenue, Detroit, Michigan. The business will be conducted under the name of Goodyear's Rubber Store, doing a wholesale and retail business in rubber goods and mill and engineers' supplies. Mr. Denny will look after the management of the store, while Mr. Coffey will represent it in western Michigan.

=As justifying the new policy of concentration of management of the various plants controlled by the Rubber Goods Manufacturing Co., the Hartford (Connecticut) *Times* says that at one time, under the old régime, a certain company was on the point of securing a very large contract for rubber tires, when another company, in the same combination, but not understanding the situation, bid for the contract and obtained it, at a figure amounting to \$100,000 less than had been named by the first company referred to. It was not long after the facts became known that a policy was adopted which took the constituent companies out of the position of working against each other.

=The Kelley-How Hardware Co. and the Thomson-Glaskin Co., of Duluth, Minnesota, have been consolidated, as the Kelley-How-Thomson Co. Two strong jobbing houses, handling distinct lines of goods, have united to form a stronger house, the idea having been suggested by their former frequent exchange of goods in filling orders. The Thomson Glaskin Co. was incorporated in January, 1901, to wholesale mill and mining supplies and mechanical goods, which lines will be carried by the consolidated firm, in connection with hardware.

=A very practical object lesson in air drill and pneumatic hose is issued by the Whitman & Barnes Manufacturing Co. (Akron, Ohio). There are displayed on a card a section of hose itself, together with the duck cover, the rubber cover, the interior plies of duck, and the tube; showing at a glance the construction of the hose and giving the purchaser a chance to test the quality of stock, friction, etc.

=In the Trenton *Times's* twentieth anniversary souvenir there are three pictures showing the yards of the prosperous lumber company of Wilson & Stokes, in which firm Mr. W. J. B. Stokes, whose large rubber interests in Trenton are well known, is a partner.

=Mulconroy Co., Incorporated (Nos. 1213 1215 Market street, Philadelphia), have added to their mechanical rubber goods lines a department of leather belting, packings, and transmission machinery, under the management of William J. M. Weaver. The latter was, until January 1, partner in the Philadelphia branch of I. B. Williams & Son, representing the New Jersey Car Spring and Rubber Co.

=The annual meeting of the stockholders of the American Hard Rubber Co. will be held at their office, Nos. 9-13 Mercer street, New York, on Tuesday, February 10, at 3 P. M.

=The Hanover Rubber Co., incorporated last October, are now operating their factory at Greenpoint, Brooklyn, New York, proofing cloth for the trade and making white sheeting. The office of the company is at No. 302 Broadway, New York. The organization of the company is to be completed at a meeting of the stockholders during the early part of this month.

=A number of rubber firms doubtless will be interested in the ninth annual Sportsmen's Show, to be held at the Madison Square Garden, in New York, from February 21 to March 7, inclusive. The display of sportsmen's supplies at these shows has increased in extent every year.

=The capital stock of the Rubber Trading Co. (No. 38 Murray street, New York), by a typographical error, was stated in these pages last month at \$50,000, whereas the figures should have read \$60,000.

=H. C. Young, formerly with the Buckeye Rubber Co. (Akron, Ohio) has been appointed superintendent of the factory of the International Automobile and Vehicle Tire Co. (Milltown, New Jersey).

=There are rumors that the earnings of the Rubber Goods Manufacturing Co. for the fiscal year ended January 31 will show 12 per cent. earned on the common stock, after providing for the 7 per cent. dividend on the preferred.

=If you want to make your *mark* in the world and are likely to buy now, or want to buy later on, "Eureka" rubber lined cotton fire hose or rubber garden hose, send to the Eureka Fire Hose Co. for a price list, and also ask for a neat souvenir combination lead pencil and eraser, which they will send gratis. It is one of the most useful business gifts of the season. Their address is No. 13 Barclay street, New York.

=Paul Beaudreau has sued the Model Rubber Co. (Woonsocket, Rhode Island) to recover \$3000 for damages alleged to have been sustained through the fracturing of a leg by a lever, while at work for the company in their factory on January 2, 1902.

=A dealer at Salem, Massachusetts, has received an order from China for nine pairs of rubber heels.

=Alexander M. Bartow, mentioned last month as having been missing for some time, and being under charges of embezzling funds while in position of cashier for W. R. Brixey (New York), committed suicide on January 15, at Bangor, Maine, where he was living under an assumed name.

=Shares of the Marconi Wireless Telegraph Co. were traded in for the first time on the New York "curb" market on January 22, when 1100 shares changed hands at 5½. Four hundred shares of the American De Forest Wireless Telegraph Co. changed hands at 4¾.

=The "Goodrich picture" for 1903 represents "Aida," who comes from out of the dim past and from the Far East, and is the daughter of a king and princess of the blood royal. In courtly phrase she suggests in the announcement that accompanies her beautiful likeness that "The King's court will remain in the state apartments in the royal palace night and day, to receive your orders, which can only reach the throne when addressed to The B. F. Goodrich Co., Akron, Ohio." The picture is exceedingly attractive and is a valuable addition to the remarkably beautiful series that the Goodrich company have created.

PERSONAL MENTION.

MR. HENRY C. PEARSON, Editor of THE INDIA RUBBER WORLD, is now in Mexico, with a view to a personal inspection of the rubber planting situation.

=Recent visitors from abroad at the office of THE INDIA RUBBER WORLD were Mr. James F. Moseley, of David Moseley's Sons, Limited, Manchester, England; Dr. F. A. Traun, of the vulcanite works of Dr. Heinrich Traun & Sons, Hamburg, Germany; Herr Johann F. Möller, of the asbestos and rubber works of Alfred Calmon & Co., Hamburg; Mr. Arthur P. Somerville, of William Somerville's Sons, Liverpool, England, and Mr. W. L. Adams, who is interested in planting, at Livingston, Guatemala.

=Mr. Arthur Loring Jackson, lately of Cambridge, Massachusetts, and Miss Pauline Fay Stone, of the same city, were married on December 10 at Lima, Peru. Miss Stone journeyed to that point with a party of friends, to meet her prospective husband, who came up from Sorata, Bolivia, where he has

been stationed for a year and a half as representative of the Chicago-Bolivian Rubber Co. Mr. J. Jackson Todd, of Brookline, Massachusetts, and president of the rubber company, together with Mrs. Todd, accompanied Miss Stone to Lima and were present at the wedding. Mr. and Mrs. Jackson spent Christmas at La Paz, the Bolivian capital, after which they proceeded to their future home, at Sorata—located 8000 feet above the sea level, amid peaks of the Andes mountains. This is the central trading point for rubber shipped from Bolivia via Pacific ports, and headquarters in that country for the Chicago-Bolivian Rubber Co. The principal office is at Boston. Mr. Jackson is the son of Patrick T. Jackson, of Cambridge. Before going to Bolivia he had spent two years in the rubber trade at Pará, in the house of Adelbert H. Aiden.

=Ohio is not unlikely to elect a man interested in rubber manufacturing as governor. The Hon. Charles Dick, vice president of the Goodyear Tire and Rubber Co., is looked upon as a receptive candidate for the Republican nomination, and leading newspapers have said that the nomination is his if he wants it.

=The will of the late Richard Butler, of the American Hard Rubber Co., which has been admitted to probate in New York, after devising some tokens of affection to relatives, leaves nearly his entire estate to his widow and two daughters, to whom, and to his friends Edwin W. Belcher, Jr., and J. Langdon Ward, is left the execution of the will.

=Mr. George H. Mayo, junior member of the firm of W. F. Mayo & Co. (Boston, Massachusetts), has taken a midwinter vacation, visiting Cuba, Nassau, and Mexico.

OBITUARY.

FREDERIC CLARK SAYLES, who died January 5 at the age of 68, at Pawtucket, Rhode Island, was born in that place, and was the first mayor after the town became a city. In 1863 he was admitted as a partner in the firm of W. F. & F. C. Sayles, whose bleachery enterprises expanded until they operated the largest works of the kind in the world. Mr. Sayles for a number of years had been a director in the Woonsocket Rubber Co., and since 1899 a director in the United States Rubber Co. The village of Saylesville, with its beautiful memorial church, its railroads, its well kept houses and streets, owes its growth and development to the energy, good taste, and public spirit of the Sayles brothers, and is a lasting monument to their liberality. In October last Mr. Sayles presented to the city of Pawtucket, as a memorial to his deceased wife, the Deborah Cook Sayles Free Public Library, at a cost of \$250,000. Mr. Sayles is survived by two daughters and two sons, one of the latter, F. C. Sayles, Jr., being a director in the Woonsocket Rubber Co. Mr. Sayles was descended, through both his parents, from Roger Williams, the founder of Rhode Island. At the time of the death of W. F. Sayles, in 1894, the wealth of the two brothers was estimated at \$20,000,000.

=Archie B. Clark, manager of the Chicago office of the Pennsylvania Rubber Co. (Jeannette, Pennsylvania) for nearly three years past, prior to which time his home was in Akron, died in Chicago on January 1, aged 33 years. Mr. Clark had worked very hard upon the annual inventory and suffered from bowel trouble. For relief he took an injection of carbolic acid and water, and the solution being too strong, the shock and a blood clot which formed, caused his death. The funeral services were held in Akron on January 4. The deceased was a son of George B. Clark, of Akron, and a most popular young man. He leaves a wife and three sons, aged six, four, and two years.

=Peter W. Gallaudet, who died January 11, at Stamford, Connecticut, in his seventy-third year, was long well known in

Wall street, New York, as a broker. His office there was frequented for years by Christopher Meyer, the leading rubber manufacturer of his day; Benjamin F. Breeden, and others connected with the rubber trade who were investors in railway stocks.

= John A. Meyers, for more than forty years an employé of The J. & H. Phillips Co., rubber goods dealers, of Pittsburgh, Pennsylvania, died on January 1 at his home in that city. He was a prominent mason and is survived by a widow and three children.

= Louis Muller, one of the oldest American residents, of Panama, Colombia, died there on January 11. About 50 years ago he had headed an exploring expedition to the gulf of Darien in search of India rubber for an American syndicate.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 20	\$45	15 $\frac{1}{4}$	14 $\frac{3}{8}$	1,163	52	50 $\frac{1}{4}$
Week ending Dec. 27	1,200	16 $\frac{3}{8}$	15 $\frac{1}{2}$	278	54	52
Week ending Jan. 3	1,790	17 $\frac{1}{2}$	16 $\frac{3}{8}$	1,088	58	56
Week ending Jan. 10	1,000	17 $\frac{1}{2}$	17	413	57 $\frac{1}{2}$	57
Week ending Jan. 17	3,085	18 $\frac{1}{2}$	17	325	57 $\frac{3}{8}$	56
Week ending Jan. 24	1,070	17 $\frac{1}{2}$	17	210	56	55 $\frac{1}{2}$

RUBBER Goods Manufacturing Co.:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 2	1,480	22	21	967	70	69 $\frac{1}{2}$
Week ending Dec. 27	2,720	23	21 $\frac{1}{2}$	1,420	72 $\frac{1}{4}$	71
Week ending Jan. 3	3,389	22 $\frac{3}{4}$	21 $\frac{1}{2}$	1,068	73	72 $\frac{1}{2}$
Week ending Jan. 10	6,595	23 $\frac{1}{2}$	21 $\frac{3}{4}$	3,935	76 $\frac{1}{4}$	73
Week ending Jan. 17	14,040	25	23	3,370	79 $\frac{1}{2}$	77
Week ending Jan. 24	13,180	25 $\frac{1}{2}$	23 $\frac{3}{4}$	1,745	79 $\frac{3}{8}$	78

CALENDARS FOR 1903

THEODORE HOFFLER & Co. (Buffalo, New York) issue a handsomely got up vest pocket calendar, with spaces for memoranda for each day in the year, together with a good map of the United States and various information desirable for ready reference == James Boyd & Brother (Philadelphia) send a convenient memorandum calendar for desk use, with one page for every week == Boston Belting Co. (Boston) send a handsome leather mounted desk calendar with a set of cards, one for each month. == B. C. Tillinghast, a rubber goods jobber (Philadelphia), sends a new pocket memorandum book bound in celluloid, with a calendar for three years and useful memoranda for reference S. Birkenstein & Sons, waste rubber merchants, of Chicago, send a new desk calendar mounted in aluminum The Stamford (Connecticut) Rubber Supply Co. send a hanging calendar ornamented with an attractive photogravure and containing a reminder of their rubber substitutes. == The Ohio Rubber Co. (Cleveland, Ohio) issue an attractive calendar, in a series of four floral pictures, each covering three months of the year. == La Favorite Rubber Manufacturing Co. (Paterson, New Jersey) advise us that a copy of their Pocket Diary for 1903 will be sent to any engineer writing to them and mentioning THE INDIA RUBBER WORLD == J. Schnurmann (27-29, Downham road, London, England), dealers in waste rubber, has sent us an attractive illustrated calendar.

THE Dunlop Tire Co., Limited, of Toronto, Canada, are manufacturing two styles of rubber shoe heels, and are gradually adding to their production a number of articles in rubber other than tires.

PRICES OF RUBBER FOOTWEAR.

THE leading rubber shoe manufacturers announced a revision of list prices on January 1. The changes in prices are not uniform, and on many items no change has been made, it being stated that the object of the revision has been to adapt the selling prices more closely to the cost of production. A comparison of the new lists of several companies with those for the preceding year shows an average decline of 5 per cent. on rubber boots; there are variations of 5 to 20 cents per pair on heavy rubber shoes, but a number of items show no change, and the average is the same as last year; on lighter goods there has been a general advance in list prices, ranging from 4 to 10 cents per pair, and averaging 2.2 per cent. over last year's list. All prices are subject to change without notice.

Discounts to retailers from the lists of the United States Rubber Co. will remain without change, as follows, until May 31, 1903 (discounts to jobbers also remaining the same as last year):

First quality brands (except Woonsocket and Meyer)..... 35 @ 10 @ 3
Woonsocket and Meyer brands..... 35 @ 10 @ 3 @ 5
Second quality (except Rhode Island)..... 35 @ 10 @ 10 @ 3
Rhode Island brand..... 35 @ 10 @ 10 @ 3 @ 5

From June 1 to November 30, 1903, or thereafter, one 10 per cent. discount on each brand will be changed to 5 per cent.

The following figures show the net cost to the retailer of short boots, listed formerly at \$4.20, during 1902 at \$4.50, and this year at \$4.30 per pair:

April 1, 1900..... \$2.99 April 1, 1901..... \$2.33
November 1, 1900..... 3.15 January 1, 1902..... 2.50
January 3, 1901..... 2.99 January 1, 1903..... 2.44
February 1, 1901..... 2.46 June 1, 1903..... 2.58

The United States Rubber Co.'s "memorandum of agreement" with the jobber embodies no restriction upon prices to be charged by jobbers to retailers, as was insisted upon in former years. As a result the impression prevailed at the beginning of the year that price cutting might become general. This, however, now appears less probable. It will be remembered that upon the first adoption of the form of contract used by the United States Rubber Co. for a number of years, the point was urged by some jobbers that, having once bought goods, it was within their right to sell at any price they chose to. The bad results from price cutting, however, led the jobbers after awhile to a voluntary indorsement of the policy of maintaining prices, through a series of shoe jobbers' associations now extending over most of the country. These associations still remain active, and have practically committed themselves since the opening of the year to maintaining the rate of discounts in force. It has been pointed out that the system of branches and selling agencies now maintained by the rubber shoe manufacturers is so general that the cutting of prices by a jobber in almost any part of the country could be met promptly by the local agency of the manufacturers, in view of which fact it is not regarded as probable that the jobbing trade will depart from the policy of the past few years.

The new rubber shoe catalogues present no marked change in styles or shapes. There are, on the whole, perhaps fewer items listed than in former years. The introduction of the "service" or "extension" heel and "rolled edge" goods has become more general. Fewer widths of toes are shown in several catalogues, the narrowest lasts disappearing where any change is made.

The Canadian rubber shoe manufacturers will announce new lists and discounts on March 1, involving an advance, on account of the high cost of raw materials.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: As was foreshadowed in this correspondence last month, the rubber manufacturers of Akron have made a general advance in prices. The increase varies more upon different lines of goods than among the different manufacturers. While the advance in the price of crude rubber, and the indication that it will continue indefinitely at high figures, is the chief reason given for the increase, the added cost of nearly every kind of raw material, fuel, etc., have all contributed to the necessity for the change. The B. F. Goodrich Co., were the first to send out formal notices to the trade, but others have rapidly done the same, the advanced quotations dating from about January 1. Orders booked prior to the notices of the advance are being filled at the old figures, but for all other business there are higher quotations. From talks with representatives of several factories, it appears that there are no lines of rubber goods which are not affected by the advance in prices, though the increase is not uniform on all goods. The increase ranges from 5 to 10 per cent., at this time, but the opinion is expressed by manufacturers that another advance is likely to be necessary by April 1.

* * *

NOTICES of an advance of 10 per cent. in the wages of all the people upon their payroll (there are about 2400) were posted by The B. F. Goodrich Co. on January 8. While the advance was nominally effective January 1, it really began a few days earlier, dating from the pay day just prior to New Year's. The increase makes the payroll of the company a little more than \$1,000,000 a year, the advance adding \$100,000 annually to the salaries and wages account. The raise was a surprise to the employes and they received the news with hearty cheers. The notices of advance read: "Until further notice, on account of the increase in the expenses of living." While the Goodrich Co. are the only ones making formal announcement of a general advance in wages, other companies have been increasing the pay of employes in a somewhat less general way but nearly, if not quite, to the same extent. Advances in this and that department have been made by the different factories from time to time during the past several months, and the general average of wages paid was never before so high in the rubber business in Akron.

* * *

THE automobile tire business seems to grow brisker every day. While the local factories can meet the existing demand only by running at night, they are ever reaching out for more trade—and getting it. The B. F. Goodrich, the Diamond, the Goodyear Tire and Rubber, and the Firestone Tire and Rubber companies all made large exhibits at the recent automobile show in New York, and will also be generally well represented at the coming show in Chicago. But the value of such displays to the manufacturers of tires is being questioned more and more. Not less than fifteen exhibitions have been scheduled to take place this year, and the tire men have been invited, solicited, urged, to make displays. To most of them the cold shoulder will be turned.

"There is nothing for us in the smaller exhibitions," said a leading manufacturer; "nothing except expense. The New York and Chicago shows are legitimate. They are under the auspices of the Automobile associations and we can be profitably represented at such. But the exhibitions which are fathered by promoters after the money there is in them, have no attractions for us. In the old days of the bicycle business, shows

were held in towns of no more than 5000 population. The majority of them were schemes to get money from the manufacturers and there were few that did not succeed—in this. The drift of the automobile shows is the same way and the tire men, at least, will pretty generally stand together in refusing to be taken in."

Other Akron manufacturers have confirmed the expression above quoted, and said further that the rule adopted here was being put into practice by rubber manufacturers elsewhere. At best, the tire makers can only show their goods. The nature of the improvements upon them are such that, unlike the improvements in automobiles, they are not at once apparent. There are no new escape valves or other outward evidences of superiority to catch, at once, the casual observers' attention.

Already, however, there is some talk of the exhibits to be made at the Louisiana Purchase exposition in St. Louis next year. Not only the tire manufacturers, but other local rubber concerns expect to be represented. One concern has already reserved space. Its exhibit will include a showing of all its several products. "But, after all," said a prominent rubber man, "an exhibit at the St. Louis fair will not be of much immediate account; it cannot be, in the rubber business. If we could show machinery in motion it would be worth while, but there is not much in a stack of belting, tires, and plain, everyday articles of manufacture, to attract attention."

* * *

THE Firestone Tire and Rubber Co. made their first tires in their own plant and with their own men, January 12, and were entirely successful. The company will keep their machinery going night and day to catch up with orders and accumulate goods in stock. They are making special efforts to enter the automobile field on a large scale, competing with solid tires against the more generally accepted pneumatics for road machines, and seeking to demonstrate that the solid tire is equally if not more desirable than the pneumatics.

The B. F. Goodrich Co. are now occupying their new five-story addition. On the fifth floor has been placed the machine-made hose department; on the fourth floor the hand-made hose department; and on the third floor the cotton hose department. The second floor will be a warehouse for staple manufactured goods to be made up in large quantities, insuring more prompt delivery on such orders than the company have been able to make heretofore. The first floor of the new building is occupied by the shipping department, and a belt line railroad, connecting with all the trunk lines entering Akron, passes the door. The space made vacant by the removal of the hose and shipping departments from the other buildings will be used for the extension of other departments which have long been in need of additional room.

The Goodyear Tire and Rubber Co. are moving into the three story addition lately completed, placing therein all their tire departments. The new structure will be entirely occupied by March 15, and it is expected during February and March to increase the number of employes by 200. The removal of the tire departments to the new building will make room for a great extension of the company's molded goods departments. Since December the Goodyear factory has been in operation night and day in the tire and the stock preparing departments.

William Cary has purchased the stock of A. D. Logan in the Lyon Rubber Co. and succeeds him as secretary and treasurer of the company. The Lyon company are devoting their main attention to gloves, claiming to produce a grease proof glove of exceptionally high merit. Mr. Logan will return to the grain and feed business with which he was formerly identified.

The Goodyear Tire and Rubber Co. will begin about Feb-

ruary 1 the manufacture of the Saunders compressed air golf ball. The remark has been made that the air is bound to escape from these balls if they are held in stock six months or more, but the company say that that difficulty has been anticipated and avoided and that a recent test showed that the driving power of balls made six months ago had not been impaired. To test the Saunders ball and make comparisons with others by the same device, the Goodyear company have erected in a large, open field near their factory a mechanical drive. The release of a powerful spring lets fly the drive, and the stroke is of the same force each time. It is the only way of testing the merits of different balls, it is claimed, as a man cannot strike with identically the same force twice in succession, or measure the exact strength let loose in a drive.

A. G. Spalding & Brothers (New York) have answered to the suit of the Haskell Golf Ball Co., alleging infringement of patent, in the United States circuit court for the southern district of New York. Spalding & Brothers deny the allegations of the petitioners, in general, make no admissions, and in substance ask the Haskell company to prove their claims.

Four new directors were elected at the reorganization of the India Rubber Co., at the annual meeting on January 14. The officers then chosen are: Lewis D. Parker, of Hartford, president; A. C. Wilson, of Chicago, vice-president; W. L. Wild, secretary, treasurer, and local manager. A. L. Dickinson, an office man of the company in Akron, and J. B. Kavanaugh, of Cleveland, together with the officers, constitute the new board of directors, Mr. Wilson being the only director re-elected. The India Rubber Co., were generally busy last year and are making alterations and extensions within their plant to improve their facilities and increase their capacity. The erection of additional buildings is contemplated, but no decision has been reached. Charles H. Wheeler, whose resignation as president of the India Rubber Co. was accepted, to take effect at the time of the annual meeting, is giving his attention to railway and other personal interests.

At the annual meeting of The B. F. Goodrich Co., on January 14, all the directors and officers were re-elected. The officers are: Colonel George T. Perkins, president; Bertram G. Work, first vice president; George W. Crouse, second vice president; R. P. Marvin, secretary; W. A. Folger, treasurer and assistant secretary; F. H. Mason, general manager of works; E. C. Shaw, general superintendent; C. C. Goodrich, assistant superintendent. Reports of the past year's business are understood to have been entirely satisfactory.

The Pure Gum Specialty Co. of Barberton, held their annual meeting on January 20, receiving reports of a very prosperous year. B. F. Tracy was re-elected president, also all other officers retained, as follows: H. F. Mitzel, vice-president and manager; R. F. Mitzel, secretary; W. A. Johnston, treasurer. The company are soon to employ a number of additional workmen, upon the occupancy of additions recently completed.

The Faultless Rubber Co. held their annual meeting on January 22 and re-elected all directors and officers. The latter are H. B. Camp, president; A. Vogt, vice-president; T. W. Miller, treasurer and manager; W. H. Muschlet, secretary; J. D. Slater, superintendent. The Faultless Co. enjoyed a large share of the past year's general prosperity, and have in view the taking on of new lines of goods.

At the annual meeting of the Lyon Rubber Co., on January 16, a practical rubber man, D. G. Armstrong, lately of the Republic Rubber Co. (Youngstown, Ohio), was made secretary and treasurer, succeeding W. L. Cary, who some time ago purchased the interest of A. D. Logan, one of the founders of the company, and became the secretary-treasurer. The other offi-

cers remain the same: James T. Diehm, president; O. G. Lyon, vice president. The company are vigorously pushing a new glove claimed to be grease-proof, and contemplate several extensions in the making of dipped and molded goods for the early future. The new secretary and treasurer was originally a B. F. Goodrich Co. employé.

The Summit Rubber Co., which began business last August, held their first annual meeting on January 15, re-electing their officers: J. D. Hollinger, president and treasurer; A. Warner, vice president; H. M. Hollinger, secretary; E. J. Schultz superintendent. The company report having made a prosperous beginning.

The Summit City Machine Co., who are making considerable progress in the rubber machinery line, though a comparatively new concern, have increased the number of their employés. At the annual meeting in January these officers were chosen: Simon Smith, president; Charles Frain, vice president; Charles Manbeck, treasurer; W. H. Snyder, general manager and secretary.

The Miller Rubber Manufacturing Co., at their annual meeting on January 19, elected Frederick Grether to the board of directors, succeeding Henry Berry. The officers are as before: Jacob Pfeiffer, president and treasurer; Lee R. Miller, vice president; William F. Pfeiffer, secretary.

The Colonial Rubber Co. have closed a contract with the Continental Caoutchouc- und Guttapercha-Compagnie, of Hanover, Germany, for the manufacture of the Swinehart cross-wire tires, exclusive rights being given for Germany, Holland, Denmark, and Norway and Sweden. J. A. Swinehart, vice president of the Colonial company, leaves about February 1 for Hanover, to install American machinery and help the German company get started in the manufacture of the tires. The Colonial company have now closed contracts covering all European countries—in which, outside of Great Britain they control the patents—excepting only Russia and Belgium. Mr. Swinehart will probably visit Russia with a view to making a royalty contract there before his return. Two concerns are reported to be desirous of obtaining the rights for Belgium. The Colonial company have had a prosperous year. At their annual meeting on January 15, they re-elected their officers: John Byrider, president; J. A. Swinehart, vice president; P. D. Hall, secretary and treasurer.

The Camp Rubber Co. are getting well under way in their new factory at Ashland, Ohio, and report good prospects.

The Stein Double Cushion Tire Co. have not yet completed their experiments and tests of their new "bike" wagon tire, but believe they will be in position to push it toward the front in time for this season's business.

E. L. Climes, of Akron, a former employé of The B. F. Goodrich Co., has associated himself with the Superior Rubber and Manufacturing Co. (Cuyahoga Falls), as superintendent. The company expect to be making dipped goods within a month, but will not be in full operation before the latter part of March. A. H. Harris, formerly a mechanical engineer of The B. F. Goodrich Co., has also become associated with the Superior company.

The India Rubber Co. are making a large number of 7 inch endless solid tires for use on steam trucks manufactured in America for shipment to England.

A. H. Noah, treasurer of the Diamond Rubber Co., was elected treasurer of the Portage Golf Club on January 20. The other officers are George G. Allen, president, and H. M. Houser, secretary. Local rubber men make up the larger part of the club's membership, and a number have been indulging in winter golf of late.

REVIEW OF THE CRUDE RUBBER MARKET.

THE situation in the crude rubber market is one of uncertainty. During most of January prices were firm, without material change from our last quotations. But the close of the month brings a decline, though Centrals and Africans are higher. Receipts at Pará during 1902 were 28,758 tons (including Caucho), against 30,290 in 1901. Receipts this season, up to January 27, were only 14,475 tons, against 17,460 tons to February 1 last year. The production of some other important rubber sorts has also fallen off. These facts, in connection with active consumption and exceptionally small visible supplies of Pará grades, should tend to advance prices, and indeed fine old rubber is quoted to-day 12 @ 13 cents higher than one year ago. But meanwhile much lower prices have ruled, and since the advance began consumers have bought less freely, in the hope of another decline.

Every branch of the industry appears to be well employed, with goods orders for work ahead, and unless the factories have more rubber in store than they are believed to have, more liberal buying must begin soon, with a stiffening effect upon prices. The higher rates for coarse Pará's, with which the year opened have stimulated the buying of Centrals and Africans, which have gone up still further. Large purchases for American account have been made at the Antwerp inscriptions, where, on January 27, prices again showed an advance over brokers' valuations, though by no means so marked as at the two preceding auctions.

While the law of supply and demand in the long run fixes the price of crude rubber—as in the case of every other commodity—to the consumer, the operation of the law is not always immediate or direct. Else crude rubber should be higher than for a long time past. But the market may be affected temporarily by transactions of middlemen incident to the securing of rubber to cover orders, and the depression of prices at this moment may be due to such a cause. It must be remembered that low priced rubber at the prime markets—as Pará or Antwerp—is always desired by the importer, rather than high priced rubber, and efforts to check an advance are often attempted, though they can be only temporary in their influence, values being determined finally, in every market, by the pressure of the consuming demand. On the whole, therefore, it is probable that the rubber manufacturers have given notice of an advance on their goods none too soon.

New York quotations on January 30 were:

PARÁ.		CENTRALS.	
Islands, fine, new....	83 @ 84	Lopori ball, prime....	78 @ 79
Islands, fine, old....	88 @ 89	Lopori strip, do....	76 @ 77
Upriver, fine, new....	86 @ 87	Ikelemba.....	80 @ 81
Upriver, fine, old....	91 @ 92	Madagascar, pinky....	77 @ 78
Islands, coarse, new....	53 @ 54	CENTRALS.	
Islands, coarse, old....	@	Esmeralda, sausage....	69 @ 70
Upriver, coarse, new....	71 @ 72	Guayaquil, strip....	62 @ 63
Upriver, coarse, old....	@	Nicaragua, scrap....	68 @ 69
Caucho (Peruvian) sheet	56 @ 57	Panama, slab.....	58 @ 60
Caucho (Peruvian) ball	69 @ 70	Mexican, scrap.....	67 @ 68
AFRICAN.		Mexican, slab.....	58 @ 60
Sierra Leone, 1st quality	77 @ 78	Mangabeira, sheet....	49 @ 50
Massai, red.....	77 @ 78	EAST INDIAN.	
Benguella.....	63 @ 64	Assam.....	None here.
Cameroon ball.....	58 @ 59	Borneo.....	38 @ 52
Gaboon flake.....	34 @ 35	GUTTA-PERCHA.	
Gaboon lump.....	36 @ 37	Prime, red.....	@ 2 25
Niger paste.....	20 @ 21	Prime, white.....	@ 1 50
Accra flake.....	20 @ 21	Lower grades.....	75 @ 1.25
Accra buttons.....	58 @ 59	Reboiled, prime.....	75 @ .90
Accra strips.....	59 @ 60	Reboiled, inferior....	10 @ .25

Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.....	5\$460	Upriver, fine.....	6\$250
Islands, coarse.....	2\$800	Upriver, coarse.....	4\$750
Exchange, 11 3/4 d.			

Last Manáos advices:

Upriver, fine.....	6\$000	Upriver, coarse.....	4\$100
Exchange, 11 3/8 d.			

NEW YORK PRICES FOR DECEMBER (NEW RUBBER).

	1902.	1901.	1900.
Upriver, fine.....	86 @ 91	85 @ 87	92 @ 95
Upriver, coarse.....	65 @ 73	65 @ 66	67 1/2 @ 69
Islands, fine.....	74 @ 88	79 @ 81	86 @ 89
Islands, coarse.....	49 @ 60	48 @ 51	53 @ 54 1/2
Cametá, coarse.....	51 @ 61	50 @ 51	54 @ 56

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us:

"As usual for the month of January, the money market started very firm, with high rates for such small amount of paper as could be placed, but since the middle of the month rates have gradually eased, and are now about 5 1/2 per cent. for the best rubber paper, and 5 1/2 @ 6 per cent. for that not so well known."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers show no increase over the figures reported last month:

Old Rubber Boots and Shoes—Domestic.....	7 5/8 @ 7 3/4
Do —Foreign.....	6 3/8 @ 6 3/4
Pneumatic Bicycle Tires.....	5 3/4
Solid Rubber Wagon and Carriage Tires.....	6 1/2
White Trimmed Rubber.....	9 5/8 @ 9 7/8
Heavy Black Rubber.....	4 1/4
Air Brake Hose.....	2 3/4 @ 2 7/8
Fire and Large Hose.....	2 1/2
Garden Hose.....	1 1/2
Matting.....	1

United States Crude Rubber Imports—Official.

	1900.	1901.	1902.
United Kingdom.....pounds	7,640,073	6,802,372	7,604,134
Germany.....	1,428,339	1,832,558	2,393,998
Other Europe.....	6,124,247	9,400,127	7,220,369
Central America.....	1,363,131	1,247,517	1,062,154
Mexico.....	362,960	267,565	263,181
West Indies.....	35,125	42,844	47,355
Brazil.....	30,571,680	33,719,709	30,504,703
Other South America.....	1,161,897	1,336,131	1,230,902
East Indies.....	600,306	455,870	509,609
Other countries.....	49,425	38,117	29,467
Total.....pounds	49,337,183	55,142,810	50,865,902
Exports.....	3,849,276	3,725,558	3,204,620
Net imports.....	45,487,907	51,417,252	47,661,282
Value of imports.....	\$28,577,789	\$28,120,218	\$25,160,391
Av. Value per pound.....	58 cents.	51 cents.	49.4 cents.

Gutta-Percha.

WEISE & Co. (Rotterdam) report the following exports from Singapore for the first eleven months of four years past:

Tons.....	1899.	1900.	1901.	1902.
	6578	5740	5214	3898
The <i>Public Ledger</i> , of London, gives a statement of prices of Gutta-percha in that market at the end of 1902, in connection with which we present the equivalent values in United States currency. The same figures, by the way, were given by the same journal at the end of 1901. The figures follow:				
Good to fine.....pound	4s 9d	to 8s. 6d	= \$1.155	to \$2.068
Low to medium.....	5d	to 4s. 6d	= .101	to 1.005

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total 1902.	Total 1901.	Total 1900.
	Fine and Medium.	Coarse.				
Stocks, November 30... tons	160	11 =	171	535	579	
Arrivals, December.....	352	470 =	1322	1019	1858	
Aggregating.....	1012	481 =	1493	1554	2437	
Deliveries, December.....	945	476 =	1421	1079	1779	
Stocks, December 31..	67	5 =	72	174	658	

	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, Nov. 30... tons	155	410	610	1200	885	950
Arrivals, December... 2990	3545	3145		755	1241	530
Aggregating....	3145	3955	3755	1485	2126	1450
Deliveries, December... 2780	3505	3005		1100	827	700
Stocks, Dec. 31..	365	150	660	885	1290	780

	1902.	1901.	1900.
World's supply, December 31..... tons	3188	4432	3660
Pará receipts, July 1 to December 31.....	11,576	12,689	10,730
Pará receipts of Caucho, same dates.....	604	946	564
Afloat from Pará to United States, Dec. 31..	855	1078	450
Afloat from Pará to Europe, December 31..	1011	1120	1120

Following is a comparison of estimates from six sources, American and foreign, of the visible supplies of Pará rubber on January 1. The first column contains the statistics prepared for THE INDIA RUBBER WORLD, which do not embrace Caucho. The different results arrived at by the other statisticians apparently are due in part to their inclusion of Caucho in reporting stocks, though this would not account for all the difference:

DETAILS.	I.	II.	III.	IV.	V.	VI.
Stocks, New York...	72	75	75	75	122	73
Stocks, England....	885	939	895	940	944	900
Stocks, Pará.....	395	410	410	410	415	
Afloat, New York...	855	880	880	880	894	2680
Afloat, Europe....	1011	1060	1060	1060	1011	
Total....	3188	3364	3320	3365	3356	3653

AVERAGE OF SIX TABLES, 3379 TONS.

Bordeaux.

THIS port is steadily gaining in importance as a rubber market due in part to the extensive investments of French capital in the African trade, and also to the excellent shipping communications with the West African coast. The house of R. Henry supplies the following comparison of imports at Bordeaux for the past two years:

British Official Returns.

INDIA-RUBBER.		
	1900.	1901.
Imports..... pounds	57,488,032	52,245,688
Exports.....	32,885,888	32,604,704
Net Imports.....	25,602,144	19,340,384
Value of Imports....	£6,986,153	£5,830,224
Value of Exports....	3,808,472	3,602,723

Value Net Imports.....	£3,177,661	£2,227,501	£1,629,402
Av. value Imports per pound.	2s 5½d.	2s 2½d.	2s 2½d.

[One disturbing feature in these calculations—but only a slight one—is the fact that some imports of waste (especially from Russia) continue to be recorded in British imports of raw India-rubber.]

GUTTA PERCHA.		
	1900.	1901.
Imports..... pounds	14,118,608	9,605,050
Exports.....	1,709,792	1,224,832
Net Imports.....	12,408,816	8,680,224
Value of Imports....	£1,635,768	£1,382,640
Value of Exports....	146,689	143,900
Value Net Imports....	£1,539,079	£1,238,646
Av. value Imports per pound.	2s. 4¾d.	2s. 9½d.

	1901.	1900.
Soudan and Conakry rubbers..... kilos	270,000	485,000
Cassamance.....	65,000	132,800
Grand Bassam.....	5,000	26,800
Madagascar.....		3,500
New Caledonia.....	3,000	2,500
Mexican.....		4,500
Mayumba.....		4,100
Java.....	5,000	1,700
Lahou.....		3,000
Total..... kilos	348,000	664,900

RANGE OF PRICES DURING 1902.

Soudan and Conakry twists..... frames	6.00@7.75
Soudan niggers.....	5.50@7.65
Conakry niggers.....	6.00@8.35
Cassamance, AP-A, AM, and B.....	3.80@8.25
Grand Bassam lumps.....	3.70@5.80
Grand Bassam cakes.....	4.25@6.70
Grand Bassam niggers.....	5.50@6.
Mexican.....	5.25@6.50
Mayumba.....	3.90@5.35
Madagascar, pinky.....	6.80@6.95
Madagascar niggers.....	3.50@5.50
Java.....	6.75@7.25
New Caledonia.....	7.25@8.

For some special lots of Soudan twists 8 francs was paid and for Conakry niggers, 8 francs per kilogram.

P. CHAUMEL, formerly a broker in Caoutchouc and other colonial products, has become a member of the firm R. Henry, successors to Jules Pichard, as manager of their department of colonial products.

Rotterdam Rubber Statistics, 1902.

[Compiled by WEISE & Co.]

INDIA-RUBBER ARRIVALS (KILOS)

Thimbles, red.....	159,500	Soudan.....	11,550
Congo ball.....	14,400	All other.....	14,800
Kassai, red.....	364,700		
Kassai, black.....	31,500	Total, 1902.....	991,700
Upper Congo.....	329,650	Total, 1901.....	853,250
Sierra Leone.....	18,000	Total, 1900.....	877,450
Mozambique.....	27,400	Total, 1899.....	804,750
Java and Sumatra.....	29,200	Total, 1898.....	656,400
Stocks, January 1....	8,100	1902.	1901.
		1900.	1899.
		38,900	36,100

BALATA ARRIVALS (KILOS.)

	1902.	1901.	1900.	1899.	1898.
Surinam sheet...	244,500	211,950	161,600	95,200	76,800
Venezuela block..	30,700	31,450	23,500	52,200	158,800
Total.....	275,200	243,400	185,100	147,450	235,600
Stocks, end year	2,000			5,000	

GUTTA-PERCHA (TONS).

	1902.	1901.	1900.	1899.	1898.
Stocks beginning of year....	263	185	307	100	130
Arrivals during year.....	267	314	230	495	265
Aggregating.....	530	499	587	675	395
Sales during year.....	312	236	402	368	215
Stocks end of year....	218	263	185	307	180

Rubber Receipts at Manaus.

DURING December and for the first six months of the crop season, and compared with former years (by courtesy of Messrs. Witt & Co.):

FROM—	DECEMBER.			JULY-DECEMBER.		
	1902.	1901.	1900.	1902.	1901.	1900.
Rio Purús..... tons	407	408	257	1915	2339	1712
Rio Madeira.....	166	279	245	1300	1610	1448
Rio Jurúa.....	337	408	526	789	1593	910
Rio Javary—Iquitos.....	441	290	294	995	885	679
Rio Solimões.....	324	275	160	922	1047	599
Rio Negro.....	109	66	75	199	95	98
Total.....	1844	1786	1557	6120	7569	5446
Caucho.....	185	280	140	600	1096	541
Total.....	2029	2066	1697	6720	8665	5987

Para.

UNDER date of December 31, 1902, is notified the dissolution of the commission firms of Cmok, Prüsse & Co. (Pará) and Prüsse, Dusendschön & Co. (Manáos), through the retirement of Mr. O. P. F. Prüsse, who returns to Wiesbaden, Germany. The business at Pará will be continued under the firm style of Cmok, Schrader & Co., and at Manáos as Dusendschön & Co. The firm members now are Messrs. Oscar F. A. Dusendschön, Wilhelm Richard Schrader, and Franz Hermann Cmok, with Heilbut, Symons & Co. (London and Liverpool) as special partners. The capital employed is 1,200,000 milreis.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Transactions have been in small proportions, but quotations show an advance over the past week. The following prices have been paid (in marks per kilogram):

Pará fine, hard cure, spot	8 65@8 85	Colombian scrap.....	6 40@6 50
Do future	8 60@8 75	Salvador scrap.....	6 70@6 80
Pará medium, hard cure,		Salvador strips.....	5 75@5 80
future.....	8 30@8 45	Mozambique ball	
Bolivian future.....	8 20@8 25	"Donde".....	7 50@7 70
Manáos scrappy negro-		Mozambique ball	
heads.....	7 10@7 15	"Mahenge".....	7 40@7 50
Peruvian balls.....	7 10@7 10	Massai niggers.....	7 25@7 35
Mattogrosso sheets.....	5 50@5 60	Gambia niggers.....	5 90@6 00
Santos sheets.....	5 20@5 25	Borneo I and II.....	5 40@5 50
Ecuador scrap.....	6 75@6 90	Borneo III.....	2 25@2 30

Hamburg, January 17, 1903.

London.

EDWARD TILL & Co., January 1, report stocks:

	1903.	1902.	1901.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	55	141	220
{ Assam and Rangoon.....	2	52	30
{ Other sorts.....	175	442	788
Total.....	232	638	1038
LIVERPOOL { Pará.....	594	1302	776
{ Other sorts.....	456	854	1057
Total, United Kingdom.....	1582	2704	2401
Total, December 1.....	2083	2525	3061
Total, November 1.....	2337	2602	3040
Total, October 1.....	2464	2802	2846

PRICES PAID DURING DECEMBER.

	1902.	1901.	1900.
Pará fine, hard.....	3/4 ³ / ₄ @ 3/10	3/7	3/9 ¹ / ₂ @ 3/10
Do soft.....	3/1 ¹ / ₂ @ 3/8 ¹ / ₄	3/4 ³ / ₄ @ 3/6 ¹ / ₄	3/9 ¹ / ₂ @ 4/-
Negroheads, Islands.....	2/1 ¹ / ₂ @ 2/6 ¹ / ₂	2/0 ¹ / ₂ @ 2/1	2/1 ¹ / ₂
Do scrappy.....	2/9 @ 3/1	2 7 @ 2/9	2 9 ¹ / ₄ @ 2/10
Bolivian.....	3/7 @ 3/10	3/7 ¹ / ₄ @ 3/9	No sales

JANUARY 16.—The market for Pará continues quiet, with sellers of fine hard spot and forward at 3s. 11d. Ten tons March April delivery sold to day at 3s. 10³/₄d. Negroheads firm, with sales of scrappy at 3s. 2d. @ 3s. 1¹/₂d.; Cametás have been in good demand with fair sales for near delivery 2s. 7d.; Islands sold at 2s. 6¹/₄d. @ 2s. 6d. Peruvians quiet, with small sales of ball at 3s. 1¹/₂d. @ 3s. 1³/₄d. forward and further sellers. Fine Mollendo buyers at 3s. 8d. Medium grades continue scarce and in good demand. No auctions have been held to day.

Liverpool.

WILLIAM WRIGHT & Co. report [January 1]:

Fine Pará.—Under the combined influence of short receipts and "bear" covering, the market has been strong and active, and an advance of 5d. @ 5¹/₂d. per pound has been registered. The chief features of this advance have been the comparatively small amount of speculation, and the fact that the rise in price was largely due to the shortage in good medium grades. The early winter in the United States has also had some effect. As regards the future, it is difficult to predict what will happen; the Pará receipts will naturally be an important factor, but we believe there is still a considerable amount of "bear" sales to cover. A

temporary setback is quite possible, but an early return to recent level [lower] of prices does not seem probable. As compared with present prices of many grades of medium, fine Pará is still the cheapest rubber. *African*—All descriptions have been in strong demand; several grades show a sharp advance has taken place. Stock of good qualities scarce and wanted.

EDMUND SCHLÜTER & Co. report [January 14]:

During the week we have experienced a somewhat spasmodic but advancing market in Para sorts, with business in hard fine and spot at 3s. 10d., and February-March-April-May at 3s. 10¹/₂d. @ 3s. 11d., closing at the latter figure. A few cases of 1901 Bolivian were sold at 4s. 0¹/₂d. The price now wanted is 4s. 1d. @ 4s. 1¹/₂d. The demand for spot fine has been irregular at from 3s. 8¹/₂d. @ 3s. 9d. and 3s. 9¹/₂d. for February-March delivery. Medium kinds remain in good demand with limited offering. Sales at auction to-day included Sierra Leone twists at 3s. 1¹/₂d.; Manoh twists, 2s. 7¹/₄d.; large Gaboon ball, 2s. 4¹/₂d.; Loanga ball 2s. 4¹/₂d.; Pernambuco scrap, 1s. 9¹/₂d.; Sierra Leone negroheads 2s. 9¹/₂d.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our report of December 16 two inscription sales have taken place—on December 19, when 90 tons were offered and sold, and on January 2, when 42 tons were sold. The chief interest in the first inscription consisted in the sale of 62 tons prime Lopori at 8.30, 8.40, and 8.50 francs per kilogram, against an estimation of 7.70 francs. The average advance may be estimated at 3¹/₂ to 4 per cent. on the preceding sale, or at 8 to 9 per cent. on estimations made before the sale of December 16. The sale of January 2 showed equally firm prices, the advance on estimations amounting to 2¹/₂ per cent. for Congo rubber and about 3 per cent. for other African sorts. The next regular monthly sale will occur on January 27, when about 650 tons will be offered.

The year's arrivals at Antwerp showed a decrease of about 400 tons, compared with 1901, instead of which we doubtless should have had an increase if the agents of the Congo Free State and of the private companies had not been instructed to lay special stress on the improvement of the quality of rubber produced. The effect of these measures will be felt in the future, without doubt, in the improvement of prices in this market.

C. SCHMID & CO.

Antwerp, January 13, 1903.

KARCHER & Co. reported, in advance of the sale of January 27, when 622 tons were to be offered, the following principal lots, with the brokers' estimation (in francs per kilogram):

Kilos.	Grades.	Value.	Kilos.	Grades.	Value.
8,759	Equateur.....	8 50	15,101	Kassai.....	7 75
14,131	Equateur.....	8 25	31,937	Do red.....	7 50
11,564	Upper Congo.....	7 55	19,525	Do red.....	7 75
6,951	Low Congo thimbles	6 25	14,262	Lomami.....	7 95
9,704	Do red.....	4 00	11,418	Lake Leopold II.....	6 75
34,675	Uelé.....	7 65	27,599	Aruwimi.....	7 50
35,782	Aruwimi.....	7 75	22,521	Mongalla.....	7 50
8,063	Isangi.....	7 85	37,387	Wamba.....	4 75
51,317	Mongalla.....	7 75	11,873	Do.....	4 40

GRISAR & Co.'s annual review for 1902 shows smaller arrivals in this market than during 1900 or 1901, though larger than for any preceding year. The following comparison shows the sources of rubber imports for three years past:

	1900.	1901.	1902.
Congo Free State..... kilos.	4,902,003	5,417,456	4,992,054
Other countries.....	796,032	431,746	411,031
Total.....	5,698,035	5,849,202	5,403,085

It is pointed out that in spite of the considerable importations during the year, the prices obtained were higher for many grades than during the preceding year, while prices of Pará rubber had shown a decline. This fact is explained by the great vogue which Congo rubbers have enjoyed, proving them

to be indispensable to the rubber industry. The imports at Antwerp doubtless would have been greater but for the special efforts made during the year to bring about an improvement in the methods of handling Congo rubbers, and thus securing a higher standard of quality. Repeated instructions have been communicated by the government of the Congo Free State and by the rubber trading companies to their agents to demand from the natives greater care in the preparation of rubber rather than the greatest possible quantity. Very noticeable results have already been obtained, but not without having caused a momentary diminution of production. The same policy has been pursued by the large Compagnie du Kassaï, constituted during the year through the amalgamation of certain *cessionnaire* companies, and which is now resuming operations in Africa after some months of inactivity in the district under its control. Important shipments are now under way from the Kassaï, and the hope is entertained that an improvement in quality will be shown in the product from that district. With a view to preventing the exhaustion of rubber supplies, the government has adopted measures to secure the planting of new vines, the result of which is noted elsewhere in this paper. Thanks to these various measures, the future of the trade is looked to with confidence. During the year the first shipments of rubber were received from the Katanga region. This rubber was at first very unsatisfactory, but the later shipment showed remarkable improvement in quality and some fine lots have brought from 7.50 to 7.90 francs per kilogram.

COMPARATIVE PRICES—EXTREMES.

GRADES.	1900.	1901.	1902.
Kassaï, red.	9.00-10.30	8.25-9.00	7.50-8.75
Equateur.	7.30-10.62½	7.25-8.50	6.80-8.75
Lopori.	7.90-10.62½	7.25-8.50	6.80-8.75
Uelè.	7.35-9.90	6.85-7.45	5.42½-8.15
Arawimi.	7.00-9.50	5.50-7.50	5.40-8.45
Upper Congo, ordinary.	7.90-10.00	7.10-7.90	6.65-7.95
Lower Congo thimbles.	3.85-6.17½	2.80-4.02½	4.70-4.25
Fine Pará.	38.10d.-48.8d	35.6d.-35.10d	25.11d.-35.

ANTWERP RUBBER STATISTICS FOR DECEMBER.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Nov. 30, <i>kilos</i>	185,961	84,330	1,064,640	179,778	270,315
Arrivals in December	799,236	204,920	170,135	319,351	220,809
Congo sorts.	790,150	184,525	171,720	299,754	193,671
Other sorts.	33,086	20,395	18,405	19,607	27,138
Aggregating.	985,197	1,048,221	1,234,751	499,120	491,184
Sales in December	327,092	633,512	620,742	207,135	227,844
Stocks, Dec. 31.	658,105	414,709	614,039	291,991	263,340
Arrivals since Jan. 1	5,403,985	5,849,212	5,698,035	3,402,880	2,014,591
Congo sorts.	4,992,951	5,417,150	4,902,003	2,881,500	1,724,305
Other sorts.	110,031	432,062	796,032	521,380	290,286
Sales since Jan. 1.	5,160,589	6,048,442	5,375,987	3,374,229	1,845,714

PARA RUBBER VIA EUROPE.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Nov. 30, <i>kilos</i>	185,961	84,330	1,064,640	179,778	270,315
Arrivals in December	799,236	204,920	170,135	319,351	220,809
Congo sorts.	790,150	184,525	171,720	299,754	193,671
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Other sorts.	110,031	432,062	796,032	521,380	290,286
Sales since Jan. 1.	5,160,589	6,048,442	5,375,987	3,374,229	1,845,714

POUNDS.

PARA—Continued.

DEC. 15.—By the <i>Mamelouba</i> =London:	
Reimers & Co. (Fine)	23,000
DEC. 26.—By the <i>Cette</i> =Liverpool:	
Reimers & Co. (Fine)	23,000
DEC. 30.—By the <i>Sarona</i> =Liverpool:	
Reimers & Co. (Fine)	41,500
Reimers & Co. (Coarse)	57,000 101,500
JAN. 2.—By the <i>Toulouze</i> =Liverpool:	
George A. Alden & Co. (Fine)	19,000
Edmund Reeks & Co. (Cauché)	13,500 32,500
JAN. 5.—By the <i>Umbria</i> =Liverpool:	
Poel & Arnold (Fine)	2,000
Poel & Arnold (Coarse)	72,000 74,000
JAN. 6.—By the <i>Segurama</i> =Mollendo:	
New York Commercial Co. (Fine)	5,500
New York Commercial Co. (Coarse)	2,000 7,500
JAN. 10.—By the <i>Germanie</i> =Liverpool:	
A. T. Morse & Co. (Cauché)	7,000
JAN. 13.—By the <i>Ibernia</i> =Liverpool:	
Poel & Arnold (Fine)	33,000
Poel & Arnold (Coarse)	10,000 43,000

RUBBER ARRIVALS AT ANTWERP.

DEC. 19.—By the <i>Albertville</i> , from the Congo:	
Bunge & Co. (Société Générale Africaine) <i>kilos</i>	187,226
Do. (Comite Spécial Katanga)	1,010
Do. (Chemins de fer des Grand Lacs)	2,800
Do. (Société Anversoise)	36,296
Comptoir Commercial Congolais	80,000
M. S. Cols.	15,000
Do.	1,000
Comptoir des Produits Coloniaux (Cie. de la M'Goko)	3,950
Do. (Cie. de la Kadei Sangha)	6,400
Do. (Cie. du Kassai)	6,700
W. Mallinckrodt & Co. (Alimaïenne)	5,000
Société Coloniale Anversoise	3,200
Do. (Belge du Haut Congo)	6,600 355,182

JAN. 8.—By the *Anversville*, from the Congo:

Société Coloniale Anversoise ... (Cie. du Kassai) <i>kilos</i>	15,500
Do. (Société La Lulonga)	5,000
Do. (Süd Kamerun)	7,000
Do. (Belge du Haut Congo)	15,500
Do.	2,000
Bunge & Co. (Société Générale Africaine)	82,392
Do. (Société Anversoise)	37,000
Do.	223
Cie. Commerciale des Colonies	4,100
M. S. Cols. (Société L'Ekemba)	800 169,515

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

January 2.—By the steamer *Basil*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauché.	Total
A. T. Morse & Co.	97,900	33,000	101,900	.....	232,800
New York Commercial Co.	97,500	35,200	34,200	1,400=	168,300
Edmund Reeks & Co.	65,100	14,100	15,500	.....	94,700
Poel & Arnold.	45,300	17,500	19,800	1,200=	83,800
United States Rubber Co. ....	.....	.....	44,400	4,200=	48,600
William Wright & Co.	6,400	300	21,500	.....	28,200
L. Hageners & Co.	8,100	.....	4,300	.....	12,400
Robinson & Tallman.	7,500	1,300	2,000	.....	10,800
G. Amsinck & Co.	5,000	300	700	300=	6,300

Total. 332,800 101,700 244,300 7,100= 685,900

January 14.—By the steamer *Hubert*, from Maráos and Pará:

New York Commercial Co. 264,200	57,600	127,600	.....	449,400
Poel & Arnold. 112,500	63,500	42,100	32,000=	250,100
A. T. Morse & Co. 102,200	10,400	35,600	.....	148,200
William Wright & Co. 64,800	9,200	51,700	.....	125,700
United States Rubber Co. 3,800	2,200	48,300	300=	54,300
Edmund Reeks & Co. 21,200	5,700	8,100	2,700=	40,700
Kramrisch & Co. ....	.....	26,000	.....	26,000
Hagemeyer & Brunn. 8,100	7,400	2,200	.....	17,700
L. Hageners & Co. 8,600	.....	2,200	.....	10,800

Total. 588,400 156,000 343,500 35,000= 1,122,900

January 23.—By the steamer *Amazonense* from Manáos and Pará:

New York Commercial Co. 287,600	52,100	153,800	1,000=	493,500
Poel & Arnold. 151,500	62,800	126,200	28,300=	368,800
William Wright & Co. 74,000	15,200	108,900	.....	198,700
United States Rubber Co. 81,300	13,400	63,900	13,900=	172,500
A. T. Morse & Co. 97,900	12,700	58,200	.....	168,800
Edmund Reeks & Co. 31,600	2,700	7,000	.....	41,300
L. Hageners & Co. 13,900	400	8,000	.....	22,300
H. A. Gould Co.	300	1,300	.....	1,600

Total. 738,400 150,600 527,300 43,200= 1,468,500

[NOTE.—The steamer *Bernard*, from Pará, is due at New York February 1, with 150 tons Rubber and 25 tons Cauché. The *Marathense* was due to sail from Pará for New York January 28 or 29.]

PARA—Continued.

JAN. 14.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold (Coarse)	11,500
JAN. 17.—By the <i>Condor</i> =Mollendo:	
John M. Parr's Sons (Fine)	22,500
John M. Parr's Sons (Coarse)	2,000
New York Commercial Co. (Fine)	2,500
New York Commercial Co. (Coarse)	1,100 28,100
JAN. 19.—By the <i>Lucania</i> =Liverpool:	
Poel & Arnold (Fine)	86,000
Poel & Arnold (Coarse)	2,500
George A. Alden & Co. (Fine)	43,000 131,500
JAN. 19.—By the <i>Cymric</i> =Liverpool:	
Poel & Arnold (Fine)	25,000
William Wright & Co. (Fine)	4,500 29,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.

DEC. 23.—By the <i>A. Hineco</i> =Colon:	
G. Amsinck & Co.	8,200
J. A. Pauli & Co.	5,300
A. Santos & Co.	4,500
Lawrence Johnson & Co.	4,800
E. B. Strout.	4,600
D. A. De Lima & Co.	4,000
Dumarest & Co.	3,400
American Trading Co.	2,600
Isaac Brandon & Bros.	2,400
E. Schmittlin & Co.	1,700
Mecke & Co.	1,600
Jimenez & Escobar.	1,300
Livingstone & Co.	700
Andreas & Co.	100
Lauman & Kemp.	400
Ascensio & Cossio.	200
For Europe.	2,700 48,600

DEC. 25.—By the <i>Caribet</i> =Trinidad:	
Eggers & Heinlein.	8,600
J. W. Wilson & Co.	1,500
H. W. Peabody & Co.	900
G. Amsinck & Co.	700
A. S. Lascellas & Co.	400 12,100

DEC. 25.—By the <i>El Valle</i> =New Orleans:	
Eggers & Heinlein.	2,600
A. T. Morse & Co.	1,500 3,500

DEC. 29.—By the <i>Seneca</i> =Mexico:	
American Trading Co.	2,500
Graham, Hinckley & Co.	1,600
L. N. Chemedlin & Co.	1,000
H. Marquardt & Co.	500
E. Steiger & Co.	500
Harburger & Stack.	500 6,000

DEC. 30.—By the <i>Louistine</i> =New Orleans:	
T. N. Morgan.	1,500

DEC. 30.—By the <i>Vahneit</i> =Greytown:	
Kunhardt & Co.	8,000
Livingstone & Co.	7,000
G. Amsinck & Co.	4,500
E. B. Strout.	2,500
A. D. Straus & Co.	2,600
C. Wessels & Co.	900
Lawrence Johnson & Co.	800
Sampers & Co.	800 6,000

DEC. 30.—By the <i>Saronia</i> =Liverpool:	
A. T. Morse & Co.	11,200

DEC. 30.—By the <i>Financia</i> =Colon:	
Hirzel, Feltman & Co.	8,000
Piza, Nephews & Co.	5,800
Andreas & Co.	4,600
Isaac Brandon & Bros.	2,900
A. D. Straus & Co.	1,700
L. N. Chemedlin & Co.	1,300
G. Amsinck & Co.	1,100
Lawrence Johnson & Co.	900
Eggers & Heinlein.	500 26,800

JAN. 3.—By the <i>El Paso</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	4,000
A. N. Rotholz.	2,500
A. T. Morse & Co.	1,000 7,500

JAN. 5.—By the <i>Monterey</i> =Mexico:	
E. Steiger & Co.	1,500
H. Marquardt & Co.	1,200
P. Harmony, Nephews Co.	700
Sammels Brothers.	500
Thebaud Brothers.	300 4,200

JAN. 6.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.	3,500
A. N. Rotholz.	1,500
Eggers & Heinlein.	1,500 6,500

JAN. 6.—By the <i>Segurana</i> =Colon:	
Hirzel, Feltman & Co.	29,000
Lawrence Johnson & Co.	6,000
G. Amsinck & Co.	3,700
A. Santos & Co.	6,400
Isaac Brandon & Bros.	3,500
Dumarest & Co.	3,000
E. B. Strout.	2,200
Harburger & Stack.	900
R. G. Barthold.	300 55,000

JAN. 7.—By the <i>Hewlius</i> =Bahia:	
J. H. Rossbach & Bros.	22,500
Booth & Co.	1,000 23,500

JAN. 12.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.	1,000
Graham, Hinckley & Co.	600
H. Marquardt & Co.	800
For Europe.	1,500 3,900

JAN. 13.—By the <i>Icarus</i> =Liverpool:	
United States Rubber Co.	23,000

CENTRALS—Continued.

JAN. 12.—By the *Comus*=New Orleans:

A. T. Morse & Co.

JAN. 13.—By the *Alphina*=Greytown:

A. D. Straus & Co.

Andreas & Co.

E. B. Strout.

Livingstone & Co.

Lawrence Johnson & Co.

Kunhardt & Co.

Roldan & Van Sickle.

JAN. 14.—By the *City of Washington*=Colon:

Hirzel, Feltman & Co.

Piza, Nephews & Co.

G. Amsinck & Co.

Eggers & Heinlein.

M. A. de Leop.

L. N. Chemedlin & Co.

Fred. Probst & Co.

A. M. Capen Sons.

JAN. 16.—By the *El Valle*=New Orleans:

Manhattan Rubber Mfg. Co.

Eggers & Heinlein.

Kunhardt & Co.

JAN. 17.—By the *Esperanza*=Mexico:

Smithers, Nordenholt & Co.

P. Harmony's Nephews Co.

H. Marquardt & Co.

JAN. 19.—By the *Sallust*=Bahia:

Booth & Co.

J. H. Rossbach & Bros.

JAN. 20.—By the *Alfinco*=Colon:

Isaac Brandon & Bros.

G. Amsinck & Co.

A. Santos & Co.

Hirzel, Feltman & Co.

Dumarest & Co.

D. A. De Lima & Co.

E. B. Strout.

Trame & Co.

American Trading Co.

Harburger & Stack.

Lawrence Johnson & Co.

United Fruit Co.

JAN. 22.—By the *Tempsen*=Bahia:

J. H. Rossbach & Bros.

Booth & Co.

JAN. 23.—By the *El Paso*=New Orleans:

A. T. Morse & Co.

G. Amsinck & Co.

Eggers & Heinlein.

AFRICANS.

POUNDS.

DEC. 22.—By the *British Prince*=Antwerp:

Otto Meyer (Boston).

DEC. 23.—By the *Kronlan*=Antwerp:

Reimers & Co.

Otto Meyer (Boston).

A. T. Morse & Co.

DEC. 26.—By the *Celtic*=Liverpool:

Reimers & Co.

DEC. 29.—By the *Minchah*=London:

A. T. Morse & Co.

DEC. 29.—By the *St. Andrew*=Antwerp:

Otto Meyer (Boston).

DEC. 29.—By the *La Champagne*=Havre:

A. T. Morse & Co.

DEC. 30.—By the *Belgravia*=Hamburg:

Reimers & Co.

A. T. Morse & Co.

DEC. 30.—By the *Zeland*=Antwerp:

A. T. Morse & Co.

Reimers & Co.

George A. Alden & Co.

DEC. 30.—By the *Saronia*=Liverpool:

George A. Alden & Co.

Otto Meyer (Boston).

Reimers & Co.

United States Rubber Co.

A. T. Morse & Co.

Robinson & Tallman.

DEC. 31.—By the *Polsdam*=Rotterdam:

Reimers & Co.

JAN. 2.—By the *Tatonic*=Liverpool:

Poel & Arnold.

Otto Meyer (Boston).

George A. Alden & Co.

JAN. 2.—By the *Graf Waldersee*=Hamburg:

A. T. Morse & Co.

Poel & Arnold.

AFRICANS—Continued.

JAN. 2.—By the *Proteus*=London:

George A. Alden & Co.

Poel & Arnold.

JAN. 3.—By the *Ussara*=Liverpool:

Poel & Arnold.

A. T. Morse & Co.

JAN. 7.—By the *British King*=Antwerp:

Otto Meyer (Boston).

George A. Alden & Co.

JAN. 7.—By the *Molla*=Hamburg:

Otto Meyer (Boston).

A. T. Morse & Co.

William Wright & Co.

JAN. 8.—By the *Endura*=Antwerp:

Poel & Arnold.

George A. Alden & Co.

Joseph Cantor.

A. T. Morse & Co.

JAN. 10.—By the *Greenisle*=Liverpool:

George A. Alden & Co.

United States Rubber Co.

Poel & Arnold.

A. T. Morse & Co.

JAN. 12.—By the *Leonor*=Liverpool:

A. T. Morse & Co.

Robinson & Tallman.

George A. Alden & Co.

Otto Meyer (Boston).

JAN. 14.—By the *Vordland*=Antwerp:

A. T. Morse & Co.

JAN. 14.—By the *Batie*=Liverpool:

Poel & Arnold.

JAN. 15.—By the *Lancaster*=Liverpool:

George A. Alden & Co.

JAN. 19.—By the *Lucina*=Liverpool:

George A. Alden & Co.

A. T. Morse & Co.

Poel & Arnold.

JAN. 19.—By the *Pennsylvania*=Hamburg:

Otto Meyer (Boston).

Reimers & Co.

A. T. Morse & Co.

JAN. 22.—By the *Friesland*=Antwerp:

Joseph Cantor.

JAN. 23.—By the *Parvicia*=Hamburg:

George A. Alden & Co.

Otto Meyer (Boston).

EAST INDIAN.

POUNDS.

DEC. 27.—By the *Philadelphia*=London:

Reimers & Co.

DEC. 27.—By the *Luthien*=Singapore:

William Wright & Co.

DEC. 29.—By the *Minnehaha*=London:

Robinson & Tallman.

JAN. 2.—By the *Graf Waldersee*=Hamburg:

Poel & Arnold.

JAN. 5.—By the *St. Paul*=London:

Poel & Arnold.

JAN. 5.—By the *Louther Castle*=Singapore:

William Wright & Co.

JAN. 5.—By the *Mesaba*=London:

Robinson & Tallman.

JAN. 10.—By the *Germania*=Liverpool:

Poel & Arnold.

JAN. 17.—By the *St. Louis*=London:

Poel & Arnold.

FONHANAK.

DEC. 27.—By the *Luthien*=Singapore:

William Wright & Co.

Reimers & Co.

W. R. Russell & Co.

George A. Alden & Co.

JAN. 5.—By the *St. Paul*=London:

Poel & Arnold.

GUTTA-PERCHA AND BALATA.

POUNDS.

DEC. 2.—By the *Belgravia*=Hamburg:

To order.

JAN. 2.—By the *Graf Waldersee*=Hamburg:

E. Oppenheim.

GUTTA PERCHA AND BALATA—Continued.

JAN. 5—By the <i>Lothar Castle</i> =Singapore:	
Robert Brann & Co.	5,500
JAN. 10—By the <i>Germania</i> =Liverpool:	
Earle Brothers	7,000
BALATA.	
DEC. 29—By the <i>Marchmont</i> =London:	
Earle Brothers	2,500
DEC. 30—By the <i>Prins William 3d</i> =Surinam:	
George A. Alden & Co.	500
For Europe	1,000
JAN. 16—By the <i>Prins Willem</i> =Surinam:	
G. Amstink & Co.	1,000
Biley, Billings & Co.	200
JAN. 17—By the <i>St. Louis</i> =London:	
Henry A. Gould Co.	4,500

CUSTOM HOUSE STATISTICS

PORT OF NEW YORK—DECEMBER.

	POUNDS.	VALUE.
Imports:		
India-rubber	4,652,780	\$2,488,325
Gutta-percha	6,730	4,437
Gutta-jelutong (Pontianak)	1,584,563	35,342
Total	6,244,073	\$2,528,104
Exports:		
India-rubber	55,626	\$33,886
Reclaimed rubber	9,143	1,239
Rubber Scrap Imported	1,217,461	\$ 0,490

BOSTON ARRIVALS.

	POUNDS.
DEC. 3.—By the <i>Lothar</i> =Liverpool:	
Otto Meyer—African	4,592
DEC. 3.—By the <i>Lothar</i> =Liverpool:	
Reimers & Co.—African	10,050

DEC. 4.—By the <i>Costrian</i> =Liverpool:	
Otto Meyer—African	1,730
DEC. 17.—By the <i>Sache n</i> =Liverpool:	
Reimers & Co.—African	6,930
DEC. 22.—By the <i>Frederica</i> =Liverpool:	
Reimers & Co.—African	13,690
DEC. 24.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.—African	67,900
[Included in New York arrivals Dec. 17.]	
DEC. 30—By the <i>Kansas</i> =Liverpool:	
Reimers & Co.—Coarse Para.	11,144
DEC. 30—By the <i>Cambrian</i> =London:	
Reimers & Co.—East Indian	24,137
DEC. 31.—By the <i>Commonwealth</i> =Liverpool:	
Kramtsch & Co.—African	11,213
Total Imports	149,410
[Value, \$75,548.]	

EXPORTS OF INDIA-RUBBER FROM MANAOS DURING 1902.

BY COURTESY OF WITT & CO. [WEIGHTS IN KILOGRAMS.]

EXPORTERS.	NEW YORK.					LIVERPOOL.					HAVRE AND HAMBURG.					GRAND TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Prusse, Disendsehn & Co.	994,081	381,370	339,453	297,628	2,013,441	1,300,654	181,247	175,028	429,592	1,989,517	139,974	52,860	30,060	24,571	247,405	4,250,334
Witt & Co.	1,215,426	282,644	258,377	413,076	2,169,499	689,896	127,078	168,985	131,620	1,117,589	21,488	1,950	6,637	—	30,075	3,317,157
A. H. Alden	1,057,369	265,300	305,500	193,591	1,832,739	295,202	63,920	24,196	105,990	489,297	25,536	15,840	5,520	16,500	63,396	2,385,423
Andresen Sues	29,979	17,474	16,626	8,706	72,779	347,969	176,028	131,682	22,716	698,389	25,280	7,200	5,200	—	37,760	808,928
Neale & Staats	—	—	—	10,100	10,100	196,188	50,558	37,237	54,969	338,952	144,350	34,880	30,180	44,820	254,230	608,282
Reeks & Astlett	194,699	36,124	40,905	108,361	380,089	—	—	—	1,680	1,680	—	—	—	—	—	381,769
B. A. Antunes & Co.	17,458	13,191	5,647	24,237	60,533	184,280	40,536	31,316	39,216	295,330	—	—	—	—	—	355,863
Brocklehurst & Co.	25,114	3,868	5,494	—	34,466	132,285	31,921	51,036	87,282	302,524	1,900	292	240	150	2,588	339,518
Mello & Co.	50,150	7,820	6,720	—	64,690	115,430	29,580	13,680	—	158,690	—	—	—	—	—	223,300
Marins & Levy	2,240	—	840	—	3,080	2,781	314	1,963	188	5,246	32,206	6,466	28,920	135,929	203,561	211,887
Kahn, Pollack & Co.	—	—	—	—	—	5,680	180	2,160	—	8,330	108,262	24,688	42,653	1,064	177,267	185,597
Denis Cronan & Co.	55,819	10,627	10,089	—	76,535	—	106	292	585	137	1,120	1,530	1,320	—	7,100	84,755
Barros & Levy	—	—	—	—	—	7,466	1,218	10,401	53,017	72,102	—	—	—	—	—	72,102
Schill & Sobrinho	—	—	—	—	—	—	—	—	—	—	34,534	6,312	11,905	967	53,718	53,718
Freltas Ferra & Co.	—	—	—	—	—	24,960	4,800	4,770	13,357	47,880	—	—	—	—	—	47,880
Berna do Bockris	—	—	—	—	—	1,130	170	300	—	1,720	30,940	3,740	9,980	680	45,340	47,060
Sears Para Rubber Co.	11,713	2,885	3,538	196	18,332	—	—	—	—	—	—	—	—	—	—	18,332
Sundry Shippers	97,567	24,925	16,930	17,714	157,160	74,375	13,948	13,021	2,670	104,017	33,357	16,463	6,958	12,164	68,943	330,120
Iquitos, Transit	—	—	—	—	—	288,662	16,280	143,167	3,4707	802,825	201,473	19,188	119,927	282,347	623,165	1,425,990
TOTAL, 1902	3,763,079	1,045,578	1,011,049	1,073,633	6,893,339	3,607,134	741,269	789,593	1,297,112	6,435,208	803,486	191,740	280,530	519,792	1,814,548	15,143,095
January-June	2,012,754	559,423	628,162	977,857	4,178,196	2,119,664	458,672	540,630	978,827	4,096,593	443,343	141,500	205,806	258,406	1,144,145	9,418,934
July-December	1,750,325	484,155	382,887	95,776	2,715,143	1,488,670	282,697	248,963	318,285	2,338,615	360,143	50,240	93,724	166,256	670,493	5,724,161

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS)

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1902	4,717,111	243,928	4,473,183	November, 1902	4,141,872	3,752,112	389,760
January-October	41,290,317	2,816,661	38,473,656	January-October	38,779,776	26,096,336	12,683,440
Eleven months, 1902	46,007,428	3,060,589	42,946,839	Eleven months, 1902	42,921,648	29,848,448	13,073,200
Eleven months, 1901	50,090,293	3,478,559	46,611,734	Eleven months, 1901	47,629,792	29,943,536	17,686,156
Eleven months, 1900	44,307,247	3,548,362	41,758,885	Eleven months, 1900	53,716,208	29,899,520	23,816,688
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1902	2,548,920	1,167,760	1,381,160	November, 1902	246,840	—	246,840
January-October	27,540,920	11,475,640	16,065,280	January-October	1,162,700	107,360	1,055,340
Eleven months, 1902	30,089,840	12,643,400	17,446,440	Eleven months, 1902	1,409,540	107,360	1,302,180
Eleven months, 1901	26,237,640	10,042,780	16,194,860	Eleven months, 1901	1,317,580	207,020	1,110,560
Eleven months, 1900	27,706,580	9,794,620	17,911,960	Eleven months, 1900	1,435,660	—	1,435,660
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1902	867,460	784,960	82,500	November, 1902	217,580	220	217,360
January-October	13,277,000	8,326,340	4,950,660	January-October	2,179,320	12,320	2,167,000
Eleven months, 1902	14,144,460	9,111,360	5,033,100	Eleven months, 1902	2,396,900	12,540	2,384,360
Eleven months, 1901	14,525,060	9,071,360	5,453,700	Eleven months, 1901	2,371,380	25,080	2,346,300
Eleven months, 1900	13,792,200	10,057,180	3,735,020	Eleven months, 1900	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.



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WILL THERE BE TOO MUCH RUBBER?

IN view of the amount of rubber planting now in progress the question has been asked—and it is a very natural question—whether there is not danger of a new source of supplies being created, out of all proportion to the world's needs. In other words, whether the result may not be overproduction of rubber to a degree that will render the new planting interest unprofitable.

If the consumption of rubber were a fixed quantity, with a definite limit already reached, caution might be wise in the matter of providing new sources of supply. But this is not the case. The consumption of rubber in the United States alone has doubled within seventeen years, and from whatever standpoint the rubber industry may be viewed, it gives promise of a more rapid rate of expansion to come, with the many new uses of rubber, the growth in population, and the greater buying capacity of the people. The consumption has also become much greater in other lands, and there yet remains a large part of the world's population to become users of rubber goods. Within twenty years the production of "Pará" rubber has increased threefold, and meanwhile the present enormous supply from Africa has been developed. Yet such has been the increase in demand that prices have tended constantly upward, and market supplies are smaller to-day than for years past.

The natural supply of rubber, on the other hand, is limited. There is no longer any unexplored country in which rubber trees may be hoped to exist. There are forests known to contain rubber which have not yet been "worked," but these virgin fields are lessened in extent every year. The gradual opening of new fields is offset in part by the exhaustion of old ones. It is true that, under the more intelligent supervision now given to them, the existing rubber trees in Brazil and Bolivia, for example, may long be conserved. Still there must come a time when all existing natural supplies will be taxed to their utmost, and then, without new resources, the further growth of the rubber industry will be impossible. No date for this situation can be fixed, of course, but its imminence certainly appears to us to justify the planting of rubber.

Several millions of rubber trees have been planted, thus far, but so recently that only a few thousand have reached a productive age. It is not reasonable to suppose that all the others will reach maturity, for the reason that rubber planting is a new interest, and as such liable to its share of failures. The addition to the world's supply of rubber from the existing plantations will be made gradually, as each year's planting begins to yield, and is likely to be required by the growing consuming demand. The same consideration will apply to such planting as may be done for a good many years to come. It must be remembered that rubber can be cultivated successfully only within very restricted limits. The territory in which rubber might thrive is much wider, but the natural conditions preclude undertakings there by outsiders, and render the collection of wild rubber so difficult as to make the cost of the product sometimes \$2000 or more per ton.

It must be expected that, ultimately, the success of rubber planting will result in lower prices, but not necessarily to the disadvantage of the planter. We have quoted Mexican rubber lately at 68 cents a pound, which means \$1500, gold, per metrical ton. If rubber planting is going to succeed at all, it is not going to cost \$1500, or half of it, to prepare and market a ton of products, and at much lower market rates there ought to be a good profit. At the same time every material decrease in the cost of rubber is bound to give a new impetus to consumption. This page would not hold a list of the practical uses for rubber which are held in check to-day by the high cost of the raw material. But when people once become accustomed to a new use of rubber, in which they are encouraged at first by low cost, they do not give it up later if obliged to pay more for the article. A reasonable expectation, therefore, is that if rubber prices should, in time, be depressed materially from the present level, the effect will be such an increase in consumption as to check the fall and soon create an upward tendency. This sort of fluctuation may be the continual experience of future generations of rubber planters, but it is a consideration too remote for those who are engaging in the business to-day.

Finally, if the rubber planters are alive to their opportunity, they will produce an article superior to many rubber grades now marketed, and obtain better prices. Then, if the market should become overstocked, the last sorts to feel the depression will be the carefully prepared plantation products, which will be preferred by manufacturers at good prices to badly cured, dirt filled, and foul smelling rubber, collected by natives in their primitive way, and now used in the factory through necessity. It might be suggested that people have been cultivating rice and wheat and other crops, and making iron and cloth and leather, for some thousands of years, and that in none of these lines has overproduction ever resulted to such an extent as to render the work unprofitable, taken as a whole, or unprofitable anywhere for a long continued period.

A GERMAN ELECTRICAL TRUST.

THE German electrical industries have proved such an important factor in increasing the consumption of India-rubber that they must be taken into account in any estimate of the rubber industry in that country. The great modern electrical development began just in time to aid Germany in making a long step in industrial advance, and the fullest advantage was taken of it, thanks to the high degree of technical ability for which that country has become noted. The best ideas were drawn upon from every quarter, and not only has Germany supplied herself with electrical apparatus for countless uses, but her exports have supplied a great part of the outside world beside.

The very liberal profits of the leading electrical manufacturers—dividends on as high as 15 per cent. were paid on inflated capitalizations—naturally led to a productive capacity which, when a period of depression began, could not be kept profitably employed, and the result was the

sale of products at any price to secure business. On another page is noted a policy of consolidation of the leading German electrical firms, for the purpose of reducing capitalization, restricting reckless competition, maintaining prices, and taking the direction of business out of the hands of speculative interests—the outcome of which may be a lesson of value to the rubber industry as a whole.

The world will continue to need more electrical equipment, rather than less, all of which will call for more rubber for insulation, and it is to the interest of producers in every country that the industry everywhere should be on a conservative business basis—a sound capitalization and fair profits for everything sold. Under the new conditions in Germany, instead of many concerns competing for everything in sight, each factory will be devoted to supplying what it can best produce, and this degree of specialization may bring more satisfaction to customers and larger profits for manufacturers, without necessarily raising prices beyond reason. It all amounts to a Trust, however, and the biggest trust connected with the whole rubber trade.

THE BOLIVIAN SYNDICATE CHECKED.

THE latest advices respecting the Acre are that Bolivia consents to the military occupation and administration of the district by Brazil, pending a peaceful settlement of the question of ownership. Bolivia has considered her authority in this territory to have been formally recognized by Brazil, while the latter country asserts to the contrary. The population of Acre consists mainly of Brazilians who have ventured there in search of rubber; the country is next to inaccessible from the Bolivian capital; and its only outlet is through Brazilian waters which have never been declared open for navigation by other countries. So long as the rubber trade of this region contributed to the profits solely of Brazilians the latter felt little concern about its political control, especially as it was practically without government.

But no sooner was a concession of this territory granted to the Bolivian Syndicate, on terms which would divert profits to other channels, than protests were made by the government, the people, and the press of Brazil, which country is in a position to thwart any effort to exploit the concession. Bolivia being powerless to defend her claims with arms, her hope has been that diplomatic influence by the countries whose citizens are interested in the concession might be brought to bear upon Brazil in her behalf. Failing this, she must submit to arbitration the question of title to what was already presumably part of her public domain.

The immediate interest of the rubber trade in the matter lies in the prospect that the suspension of rubber gathering on the Acre since the dispute arose over the Bolivian concession may end soon. The production of this district at times has reached 2000 or 3000 tons per year. But any hope that, under the extensive enterprises planned by the Bolivian Syndicate, the rubber output from the Acre would be greatly expanded, must be given up for the present. There is no doubt that with improved transportation facil-

ities and better systematized supplies of labor and the necessities of life, the output of Acre rubber would be greatly increased and rendered more stable.

Now all enterprise in this direction is confined practically to individual efforts, under conditions most unfavorable for work on a small scale, by parties not combined in any way for the promotion of mutual interests. The only interest of each is to get out as much rubber as possible in a season, and at the end no improvement has been made in means of transportation, in sanitary conditions, or the provision of food—all of which might result from the efforts of a syndicate working with large capital, and with a view to continuous efforts for a long term of years.

The success of Brazil in her contention—and it often happens that “possession is nine points of the law”—will perpetuate indefinitely the unprogressive conditions of one of the largest and richest rubber fields known to exist. It will discourage the development of the Acre country with foreign capital, and domestic capital and domestic initiative in such matters do not exist there. With any question of indemnity claims by the *cessionnaires*, in case the Bolivian grant should be nullified, the rubber trade is not concerned. It is enough for the latter that the problem of shortening the route between the forest and the factory still remains to be solved.

RUSSIA MAY NOT BE PROGRESSIVE, according to our Western ideas, but she has been quick to appreciate the value to the world of her worn out rubber shoes, and now proposes to levy a duty on their export. A single discarded *galoches* is entitled to little respect, but there be subjects of the Czar who cannot afford to despise small things, and millions of old *galoches* gathered in a heap bring a lot of golden *rubles*. Based on the estimate of the Russian output of rubber scrap printed elsewhere in this paper, the new export duty will enrich the treasury by more than \$300,000 a year—which the foreigner will have to pay. This, by the way, is but a single illustration of the magnitude to which the business of reclaiming rubber has grown. And it is worth quoting in answer to the people who are continually inquiring whether some newly reported “substitute” does not threaten to drive rubber out of use. It ought to be plain that, if the best “substitute” yet invented has not been able to rival old rubber shoes, the producers of new crude rubber have little reason to fear for their occupation.

A MORE PERPLEXING PROBLEM than how to maintain rubber footwear prices perhaps never confronted any class of merchants. Always a necessity, since its first introduction, the rubber shoe has become more so this winter on account of exceptional weather. Besides, a pair of the best rubbers costs hardly as much as one physician's prescription. And yet there are dealers who are worried over the prospect of not being able to do business at a profit. Time was when some dealers threw rubbers away, for fear that if they charged fair prices somebody might undersell them. Then manufacturers adopted the rule of not selling to any jobber who would not insist upon retailers paying standard prices. The consumer, by the way, pays every time all that the retailer asks, rather than risk death from pneumonia. But the jobbers objected to the contract system, on the principle that, having bought a stock of rubbers, they owned the goods and were morally free to do with them what they pleased. Now that the manufacturers' re-

strictions have been withdrawn, some jobbers are fearful that advantage will be taken of the freer market by some other jobbers, to knock the bottom out of prices. Why not let them do it, and ruin themselves? There are few jobbers who do not sell leather shoes for more than somebody else is selling leather shoes for, and yet the jobbing trade as a whole grows and prospers. They sell leather goods at what they think are right prices and let the cheaper trade cut its own throat. Why not apply the same rule to rubbers? With all the snowstorms of this winter, one might expect the jobbers to feel tempted to charge even more than standard prices.

THE HIGHEST PRICED RUBBER IN THE WORLD, for some time past, has been the product of trees of the “Pará” species, under cultivation in Ceylon. This fact is of interest as proving (1) that cultivated trees will produce rubber as well as native ones; (2) that specially prepared rubber will bring higher prices; and (3) that, contrary to views formerly held by experts, rubber of the “Pará” species is susceptible of cultivation outside of the Amazon valley. On another page appears an interesting communication from a Ceylon planter who has prepared some of the rubber which is bringing “record” prices in London.

THERE USED TO BE A SPECIAL SCHOOL of statisticians who labored to compute the amount of money spent in playing golf. Now a wider field for their talent is afforded by the question, Where does the money come from to pay the fees on the ceaseless issue of golf ball patents? And where is storage room found for all the patent specifications relating to this line of invention?

AMERICAN RUBBER SHOES IN SCOTLAND.

BY THE UNITED STATES CONSUL AT EDINBURGH.

IN my annual report for 1899 [see THE INDIA RUBBER WORLD, October 1, 1900—page 15.] I ventured the suggestion that a good market might be found in Scotland for the American style of thin, close fitting rubbers, inasmuch as there was wet weather during more than half the year and, the temperature never being low, a light rubber was certainly preferable to the heavy British overshoe. It was noted that overshoes or rubber were only needed to protect the feet from dampness, and that they were worn by but few persons, probably because the British rubbers were too clumsy and uncomfortable. An agent of the United States Rubber Co., was here in the winter of 1899, surveying the business field, making close inquiry into the trade, and adding to the number of shops then handling its goods. The result has been remarkable. This comparatively new American enterprise has proved a great success, and the trade is rapidly increasing. Not long ago I was in the office of a wholesale house carrying these goods and was told by the manager that he had received orders that morning before 12 o'clock amounting to about 80 cases. This gives an idea of the substantial character of the trade. In the damp climate of these islands rubbers are, in fact, a common necessity, and it is likely that they will come to be so regarded, especially for ladies' wear, as the light and graceful American rubber not only affords protection, but is comfortable and looks well. The enormous productive capacity of the American rubber concerns enables them to sell their goods to the foreign wholesale dealers at fairly low figures, and if in point of quality the present high standard be maintained, there seems to be no reason why the market gained here should not become a permanent possession of our producers.—*Commercial Relations of the United States for 1901.*

ANDREW CARNEGIE ON RUBBER.

IT is now just thirteen years since this journal published an editorial article asserting that "The culture of rubber will soon be a live question," and, after reviewing the results of numerous experiments in different countries, that "the susceptibility of the trees to cultivation has been proved." The article concluded: "We call attention to this subject as one of interest not only to the rubber trade but possibly to some American capitalist who may see the importance of being a pioneer in the business of supplying the world with cultivated rubber."

Through all the succeeding years the subject of rubber cultivation has received constant and careful attention in these pages, with the result that the files of THE INDIA RUBBER WORLD will be found to contain more definite and accurate information on this subject than any other publication known to us. Indeed, in addition to a great amount of original matter, we have summarized all results of experimental and practical rubber planting reported in all other journals published. While we have not commended everything that has been done in the name of rubber planting, certainly the attitude of THE INDIA RUBBER WORLD has been one of encouragement to this new interest. It is not enough, however, that such a journal should report only favorable results, or reserve its mention of planting enterprises to those deserving of commendation. In a field embracing so many companies organized for promoting planting, it is natural that there should be some employing means to attract investors that are open to criticism.

For example, there are company prospectuses which, instead of dealing with known facts in rubber planting, give chief prominence to alleged expressions in behalf of their work by men widely known for their success in money making, though probably ignorant of the rubber planting business. The name of Mr. Andrew Carnegie just now is being widely used in this connection, in such paragraphs as the following, which has appeared in the prospectus of more than one planting company:

ANDREW CARNEGIE ON RUBBER.

"If you were a young man, and had your start to make in the world, would you take up the manufacture of steel?" was asked of Andrew Carnegie by a gentleman who met him on the train to New York after his last visit to Pittsburgh. The philanthropist hesitated a moment, then shook his head. "No," he said, "The best opening for a young man to-day is rubber. Rubber will, in a few years, make a greater fortune under present conditions than steel, or, in fact, any other branch of manufacture. The great value and manifold uses of rubber are just beginning to be properly appreciated, and the profits in its production are greater than almost anything about which I am informed." Mr. Carnegie then launched forth in a long discussion on the growth of the rubber trees, the best product, and the hundreds of uses to which it has been put, and even suggested a number of improvements that showed deep study on the subject. "*Watch the men engaged in the manufacture of rubber,*" he concluded, "and as the years go by you will see them amassing splendid fortunes. The opportunities for young men are as great to-day as ever in the history of the world, and I firmly believe that rubber furnishes the greatest."

The above has been credited, in some cases, to the Pittsburgh Gazette of June 21, 1902, a search of which newspaper failed to show the lines quoted. A letter to Mr. Carnegie brought the following response:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Yours of the 7th received. Mr. Carnegie has no recollection of making any statement such as that mentioned in your letter. See his remarks on the enclosure.

Respectfully yours, JAS. BERTRAM,

P. Secretary.

2 East 91st street, New York, 10th February, 1903.

The copy of the planting prospectus sent to Mr. Carnegie was returned, with these "remarks" penciled on the margin:

Not one word of truth in this. A fraud. A. C.

Space is given to the matter above, in the first place as an answer to several persons who have written to THE INDIA RUBBER WORLD to ask whether Mr. Carnegie actually has advised young men to become interested in rubber planting. In the second place, it seems proper here to suggest that the planting interest cannot be helped by the dissemination of false statements in regard to its possibilities. It must occur to many persons who receive such statements as that credited to Mr. Carnegie to inquire whether they are authentic, and the person who learns that the strongest argument advanced in behalf of an enterprise seeking capital is a manufactured endorsement, might very reasonably become suspicious, not only of all other statements made by the same company, but in regard to rubber planting as a whole.

SUCCESS IN RETAILING RUBBER GOODS.

A RETAIL rubber store was opened a few years ago in a New England town, where such an establishment had never before proved successful, by a man who felt that he saw the way clear to building up a paying business. He began in a small way, but worked hard and studied his field carefully, taking advantage of every opportunity for making a sale, and practicing every possible economy. The result for sometime was anything but encouraging, and he was more than once tempted to give up the effort. The business continued to grow, however, and in time became so profitable as to determine him to remain in it permanently. The field for the trade of his store was confined of course to its immediate vicinity, and after he had begun to feel that the limit for expansion was reached in this respect, he looked about for another locality, and, finding a satisfactory man, placed him in charge there of a branch store. This also in time developed success, which was followed by the establishment of one or two more branches.

The proprietor of this business has thus succeeded, not only in supplying three or four times as many customers as he could ever have in any one of the towns referred to, and making a profit on all of his trade, but he has benefited besides through being able to buy on better terms than the ordinary retailer, since by giving all his orders through the parent store he is enabled to get jobbers' prices. He tells THE INDIA RUBBER WORLD that from the beginning he has seen a gradual increase in the general consumption of all rubber lines which he carries in stock, and he feels confident that this increase will be continued. The town in which he is located is a manufacturing center, with many consumers of rubber goods on a scale sufficiently large to induce them to seek the manufacturer when important orders are to be given. But these same establishments have frequent need for rubber supplies on a small scale, and there is sometimes need for prompter service than could be had by dealing with the manufacturer, so that their orders come to the local store.

The gentleman quoted here believes that the opportunity for the retail rubber store in towns and small cities is as good as ever, and even better. He would advise persons going into the business to adopt his plan of combining two or more stores under one management, as he has done. But he would not recommend every one to try to sell rubber goods. The business is one which requires special preparation and special adaptability, and it is a much more difficult matter to secure suitable store assistants in the retail rubber trade than in dry goods or general stores, because they are less plentiful.

NEW PROCESS FOR WORKING BALATA.

IN a recent issue *The Argosy*, published at Georgetown (Demerara), British Guiana, contained some notes on the exploitation of Balata on the southern borders of Venezuela by French *cessionnaires*. About two years ago the Comte de Lichtenburg, a director of the Caoutchouc de l'Orinoco de Paris, and Dr. Frank Rouberol, an analytical chemist, proceeded to the Caratal district, in Venezuela, to exploit Balata under a concession which that company had secured there. Financial troubles having overtaken the company, these gentlemen proceeded to El Dorado, in the Uruan district (claimed by British Guiana before the settlement of the boundary dispute by the treaty of 1897). There they obtained extensive Balata concessions for a new French company, and, according to *The Argosy*, a considerable quantity of Balata had been prepared and was awaiting shipment to France.

Dr. Rouberol is reported to have installed a plant for the treatment of the *latex* of Balata by a special process, whereby the resin and glucosides are removed, and a gum of unusual value obtained, in the form of either sheets or blocks. The hope is entertained of producing Balata worth 8 shillings per kilogram [=88 3 cents per pound.] The gentlemen named were on their way to France, with a view to procuring a more extensive mechanical plant after the subsidence of the troubles which now interfere with business in Venezuela. Balata is reported to be plentiful in the Uruan district, but the *latex* is obtained by destroying the trees. The available laborers, however, are most unsatisfactory.

OFFICIAL NONSENSE ABOUT BALATA.

THE INDIA RUBBER WORLD has received some inquiries as to whether it would not be wise to cease any efforts in the direction of cultivating India-rubber, on account of certain information made public in a recent report by the United States consul at Pará, Mr. Kenneday, in relation to somebody in Brazil who has "brought a concession and has lately begun the practical work of producing Gutta-percha for the market." The consul says further: "As in the case of rubber, there is practically no limit to the supply of Gutta-percha on the Amazon, and as it can be produced at a fraction of the cost of rubber, it offers a much higher percentage of profit." Consul Kenneday makes use of a report by a man described as an expert in the management of Balata estates, and who asserts that Balata trees have been found by him all over the states of Pará and Amazonas, while he is informed that vast areas of them exist on the Purús and Acre and other tributaries of the upper Amazon. He says that for more than thirty years the Balata trade has been carried on with immense profit in the Guianas and on the Orinoco, but that those fields are now almost exhausted and little is being shipped. Balata, he thinks, can be produced on the Amazon in unlimited quantities, and of a quality "if not better, at least, as good as the Guiana Balata." Further, he says, "these trees yield many times as much sap as the rubber tree, and one man can easily produce as many kilograms of Gutta-percha in a day as twenty men can extract of rubber. The trees will average 3½ pounds of Gutta-percha each, and a competent bleeder can prepare 40 or 50 pounds per day. The gum is first fermented and then dried in the sun, after which it is ready for shipment."

"I am surprised," writes Consul Kenneday's informant, "to find that this valuable gum, which is so easy of access and so cheaply prepared for market, has never become known to the trade here." THE INDIA RUBBER WORLD is surprised that

any government on earth, sufficiently advanced in civilization to maintain a consular service, will permit the publication under its official sanction of such "tommy-rot" as makes up this report from Mr. Consul Kenneday. Samples of this so called Balata from Brazil reached THE INDIA RUBBER WORLD about a year ago, and an opinion in regard to the same appeared in our issue of January 1, 1902, on page 111.

* * *

IN relation to the so called Brazilian Balata, the following letter comes to us from a highly respected source, in the rubber trade at Pará:

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your inquiry about the production of Balata in the Amazon valley, we beg to say that of late we have heard of several parties who are studying this matter here, but so far we have not yet heard that they were successful. It is true that there exists here a tree, which is said to be the Balata tree, but so far no positive result has been obtained by working it. We further may add, that we have known of the existence of this tree for some years, and have also sent samples of the stuff contained in the tree to the United States and to London, but it was not judged satisfactorily. Considering the failures to date, we are rather sceptical about the probability of Balata ever being produced here, though perhaps it is with the tree as with the rubber trees, which grow very well in many places, but do not yield what the same yield here.

Pará, Brazil, January 9, 1903.

& CO.

WHAT BECOMES OF ALL THE BALATA?

A WRITER in London *Engineering*, speaking of the continued increase in the production of Balata in the northern districts of South America, remarks: "What becomes of all the Balata at present shipped from Bolivar is a matter—almost indeed a mystery—which has exercised the minds of a good many people, because its applications are neither numerous nor extensive. We are not prying into trade secrets, but it may turn out that the prevailing idea in British Guiana, that the Balata shipped goes for the submarine cable manufacture in England, is not wholly beside the mark, though we are aware that it has been expressly stated by British experts that Balata cannot replace Gutta for this purpose. The bulk of the Balata produced goes to Europe, the United States apparently not having found any extended use for it. The States, it must be remembered, do not make their own deep sea cables—a rather sore point with some of the senators, nor do they supply the full home demand for golf balls: facts which may or may not have a connection with the much greater demand for Balata in Europe than in America. Hamburg, Rotterdam, and London are the principal ports of arrival, the large amount received at the first named place being, no doubt, explicable by the fact of German firms being chiefly interested in the Venezuelan production."

The same writer speaks of the important consumption of Balata in the manufacture of belting by R. & J. Dick & Co. (Glasgow, Scotland), under a patent granted to the late Robert Dick, which mentioned Gutta-percha, Balata, and canvas specifically. "Probably," he says, "though it is but conjecture, Balata is used more for its cheapness than for any special advantages it shows over Gutta-percha, the former, although fluctuating in price, never having exceeded 2s. 6d. per pound during the last couple of decades. The present quotation, it may be said, is rather under 2s. per pound; and although, as we have indicated above, there is plenty of material to draw supplies from, the expenses of collection in somewhat inaccessible districts, coupled with the scarcity of labor, will continue to react against any considerable reduction of price."

THE ADULTERATION OF GUTTA-PERCHA.

A REPORT on an investigation of the sources of Gutta-percha, made at the instance of the Syndicat d'Études et d'Enterprises en Malaisie—a Belgian enterprise—has been contributed by M. Octave J. A. Collet, a member of the commission, to the *Bulletin de la Société d'Études Coloniales*. After detailing visits to the Gutta-percha producing regions, and reporting upon the species and number of trees found to exist in them, M. Collet devotes considerable attention to the practice of adulterating Gutta-percha by the Chinese traders at Singapore, bringing out some facts not before generally known. This section of his report is summarized in the paragraphs which follow.

In Sumatra, and in general in all countries yielding this material, the extraction of Gutta-percha is accomplished by the felling of the tree. In the prostrate trunk annular incisions are made in the bark, at intervals of about 12 inches, which quickly become filled with the creamy *latex*. Within a half hour much of the watery contents of the *latex* will have run off, after which it is easy to remove the gutta by taking the coagulated material in hand at one end of the channel cut in the bark, and rolling it up into a ball. The gutta is then boiled and molded into shapes which differ according to the region of production. By this crude process a considerable loss of *latex* results, not only on account of what falls upon the ground, but also because the bark of the felled tree, being inaccessible underneath, yields only part of the gutta contained in it. The gutta which flows into these incisions made in the bark always carries away with it fragments of the latter.

There are numerous species of Gutta-percha trees, yielding different qualities of gum, and their careless mixture by the native collectors explains in part the infinite variety of the products put on the market, even from the same district. These mixtures are most prejudicial to the quality of Gutta percha, rendering the working of it in the factory more difficult, and its deterioration more rapid. These defects are further produced by adulteration with foreign matters, which are kneaded into the gutta after it has been placed in hot water and re-softened.

By different routes almost all of the Gutta-percha, produced as it is mostly in the Dutch Indies, is concentrated at Singapore. In this town are the storehouses of the Chinamen, who hold almost a monopoly of the gutta trade. The most shameless adulteration takes place here, to such an extent that any quality asked for by the buyer is produced at will. It is impossible to determine the original quality of guttas contained in the "reboiled" goods of Singapore. Although it is very difficult to visit the establishments in Singapore where the manipulation of gutta takes place, the mission has been able to inspect almost all of them, it being believed that we had no commercial interest whatsoever.

The operations are extremely simple, and require only the most primitive outfits. A large caldron, about 60 inches in diameter and 20 inches in depth, is placed over a brick hearth, reminding one of the wash kettles of European laundries. Besides, some long sticks and shovels are required for turning and kneading the gutta and to take it out of the boiling water, and some rectangular molds formed of four boards, and a lid or a cover of wood on which weights are laid to hold it in place.

Into the caldron, filled with boiling water, are thrown pieces of gutta, cut or refused by the buyer; gutta already in decompo-

sition and beginning to emanate a characteristic odor; remnants of Caoutchouc; gutta of almost no value whatever and harvested only for use as an adulterant; and, finally, in proportions determined according to the quality to be obtained, good gutta of such and such origin, according to the type desired. These having been boiled together, the resulting mass is removed from the caldron and placed under a board, on which two men stand, expressing with their weight any excess of water. The mass is also thus flattened, after which it is folded up and again pressed, this operation being repeated until the product takes on a very uniform appearance.

Finally, the gutta is introduced into the primitive mold already described, under the weighted lid, and left to cool off. This series of manipulations gives to the gutta the looks of a light pasty cake. Many different shapes may be given to the mold, however, and the cakes formed may be cylindrical, cubic, or oblong, according to the original quality one wishes to obtain, and of which the exterior shape is imitated.

The Chinese are and always will be the necessary intermediaries between the natives and the buyers of Gutta-percha, because they only can employ the necessary time, they can travel cheaply, and through their fraudulent maneuvers they know how to keep the native to the delivery of the harvested gutta. Called upon to furnish, in constantly increasing quantities, a product with which very few Europeans possess a thorough acquaintance, the Chinese gradually have substituted inferior guttas for good grades. Indeed, the latter hardly exist any more; the lower qualities having become first choice, guttas are sold now that formerly were deemed wholly worthless. One may say that pure Gutta-percha is a myth.

The exportation of Gutta-percha from Singapore, which in 1844 amounted to the modest total of 100 kilograms, passed ten years later 628 tons, to arrive in 1860 to 1820 tons, in 1874 to 1290 tons, in 1884 to 3000 tons, in 1894 to 2500 tons, and in 1900 to 5831 tons.

From these figures it will be seen that the exportation is following an upward tendency, in spite of the destruction of the producing trees. The reason is that under the name of Gutta-percha the most singular products are now exported. It must be admitted, however, that the demand for gutta has led the natives to penetrate into the remotest virgin forests of Borneo, Sumatra, and the Malay peninsula. The apparent increase in production, indicated by the much confused statistics of Singapore, which embrace true and inferior guttas, in spite of the diminution of the sources, is easily explained. The proportion of impurities mixed with the gutta is augmenting year by year. The falsification is even taking a scientific form; for some months a plastic gum, probably Balata, has been imported from London for this purpose. In what other way can the fact be explained, which has so vividly struck us in the course of our journey to Johore, where we saw the Chinese buy pure Gutta-percha at \$8 (silver) per catty [=1½ pounds], which brings the price per kilogram up to 33 francs? What an amount of adulteration is needed to reduce the later selling price 30 to 40 per cent. below the above figure, and to still yield a certain profit. Besides, this simple fact is confirmed by reading the statistics of Singapore. This town produces no Gutta-percha, and receives the same only in transit. Yet the exports exceed the imports by at least 25 per cent.

The imports and exports of Gutta-percha at Singapore dur-

ing five years have been compiled by M. Collet as follows [the figures referring to values in silver]:

	1895.	1896.	1897.	1898.	1899.
Imports.	\$2,408,048	\$2,572,567	\$2,979,439	\$5,645,277	\$3,799,427
Exports.	5,068,217	3,455,905	5,949,560	7,245,546	10,147,457

While these figures are only of a relative value, account must be taken of the fact that they refer to one special product, whose only market is Singapore, and that the same coincidence of largely increased exports over imports repeated itself consecutively and regularly. It is impossible to form an exact idea of the prices of Gutta-percha. For each kind of Gutta-percha there exists a scale of prices for the designations "good," "medium," and "ordinary." According to the variety, prices range from \$5 per picul [=133½ pounds] for Gutta-jeletong (known in Europe by the name of Dead Borneo) up to \$450 for the Bila prime red, or \$600 per picul for the fine Pahang red, in passing through the whole series of Sumatra, Borneo, Pontianak, etc. It is impossible to establish an average.

A DUTCH CONSUL ON GUTTA-PERCHA.

THE importation of Gutta-percha at Singapore in 1901 was much smaller than in 1900, according to the Dutch consul general at that port, Heer J. C. T. Reelfs. The imports are stated thus [weights in piculs of 133½ pounds]:

FROM—	1900.	1901.	FROM—	1900.	1901.
Sumatra.	38,799	28,134	Tringanu.	539	708
Dutch Borneo.	13,911	17,061	Java.	4,254	624
Sarawak.	5,053	3,747	Dutch archipelago.	397	402
Sula islands.	211	1,066	Various.	1,022	1,347
Penang.	6,078	1,843			
Brit. N. Borneo.	1,756	1,051	Total.	74,066	59,330
Pahang.	909	904	In pounds.	9,873,467	7,919,667
Labuan.	1,137	853			

In accounting for the disposition of this material, Consul General Reelfs gives only partial details. He mentions exports to Great Britain in 1900 of 77,465 piculs [=10,328,667 pounds], and in 1901 of 55,777 piculs [=7,436,933 pounds], or an amount equal to the total imports for the two years. But there were also dispatched to France in the latter year 7793 piculs, to Germany 5383 piculs, and to the United States 2797—a total of 71,750 piculs [=9,566,667 pounds] or 12,420 piculs more than the total imports for the same year—not to mention some minor exports to other countries.

There is also imported into Singapore, principally from Dutch Borneo, besides Gutta-percha proper, a large quantity of "inferior gutta," part of which, he says, is treated at Singapore, but which mostly is shipped in its original state. Of this material the import increased from 117,628 piculs in 1900 to 149,396 piculs in 1901. Exports of "inferior gutta" during the two years were as follows:

	1900.	1901.
To United States.	piculs 59,059	121,303
Germany.	3,353	11,176
France.	6,152	9,655
Great Britain.	24,945	9,437
Total.	piculs 93,539	151,621

These figures alone, while not conclusive, do go to confirm the contention of M. Collet, in the foregoing paper, that more alleged true Gutta-percha is shipped from Singapore than is imported there. That guttas do gain an enhanced value at Singapore is further indicated by the following official statement of values (silver) for two years:

IMPORTS.	1900.	1901.
Gutta-percha.	\$10,929,327	\$ 9,889,553
Inferior gutta.	1,025,513	1,109,015
Total.	\$11,954,840	\$10,998,568
EXPORTS.		
Gutta-percha.	\$14,359,263	\$14,427,589
Inferior gutta.	790,224	1,406,919
Total.	\$15,149,437	\$15,834,508

Heer Reelfs finds it difficult to compile prices of Gutta-percha, owing to the innumerable grades or qualities offered. Published quotations are practically the same all the time. Their range during 1901 was [in silver dollars per picul of 133½ pounds]:

MONTHS.	1st. Quality.	Medium.	Lower.
January.	\$400@ \$600	\$300@ \$450	\$50@ \$200
February.	460@ 600	300@ 450	50@ 200
March-May.	430@ 570	270@ 420	40@ 190
June-July.	420@ 560	250@ 410	40@ 180
August-November.	475@ 600	300@ 450	50@ 200
December.	450@ 550	300@ 450	50@ 200

The report concludes with a favorable review of the efforts of the various governments in control of the Gutta-percha producing districts to conserve the native trees.

A RELIABILITY CONTEST FOR TIRES SUGGESTED.

By S. Bradford Coggeshall.

THE recent reliability contest of the Automobile Club of America, from New York to Boston and return, as everybody knows, proved a tremendous success. From all sides congratulations and commendations poured in upon the club and its committees. One of the changes in the regulations, and one which was heartily approved by every one, was a new rule which placed all stops caused by tires on the list of stops to which no penalty was attached, and allowing all time lost by tire causes to be deducted.

The tire itself being no part of the propelling equipment, there is certainly no reason why the record of the motive power should suffer for tire troubles. But since the tires are necessary to the operation of the vehicle, and the reliability of the tires an essential feature, it would seem reasonable for a report on a reliability run to cover every detail instead of only a report on reliability of the motive power. The object of the run obviously is to give the intending purchaser of an automobile—whether he be one of the interested public or an enthusiast in

search of a better machine—an idea of the relative ability of machines to do various kinds of work. Certainly the tires are essential to the proper performance of this work. It is harder for the novice to judge of a set of tires than of the vehicle itself. He is forced to take the advice either of his dealer, which is liable to be prejudiced by considerations of price, or of some friend, whose experience must necessarily be limited, both as to makes of tires and the number of sets of each make that he has become familiar with.

Where more than one brand of tire was used by any one kind of vehicle, these data would, of course, be most valuable. In cases where a difference in the kinds of vehicles somewhat varies the conditions, the classification of the vehicles by weight makes this difference a small factor. The care used by the individual operator of the vehicle in starting and picking his road, as well as his control of the speed, has more influence on the wear on the tires than a difference of several hundred pounds in the total weight of load. Tires, therefore, used on

the same class of vehicles would be as nearly under same conditions as it is ever possible for tires to be. A separate tire testing contest might have much influence, but the one lately held in England was of little value because of the limited number of makes of tires entered. But the value of such a test, even when more representative, could never equal the value of a complete report on the tires of a reliability run.

There can be no doubt in the mind of any one who watched the endurance runs of the past, and who followed the progress of this year's run, that great improvement has been made in the matter of tires. This has been due in great measure to advances in the art of tire making—in the compounding of rubber for tires, in improved (because stronger) tire fabrics, and in details of designs of tires. But another thing has contributed no less to this favorable result, namely: the automobile manufacturer is beginning to see the reasonable side of the tire manufacturers' point of view. For several years the rubber manufacturer has been told to finish the tires "as ordered," and in far too many instances the order was based solely upon price. The tire maker, knowing as he does that the average vehicle uses up several sets of tires, has an even deeper interest in the success of his product than the automobile manufacturer has, since a good showing in the matter of tire efficiency will secure for him the renewal trade, while a failure will be sure to induce

the user to change. With this idea in mind, the various tire manufacturers have conducted extensive tests, the results of which, added to the information secured from customers, have given them a fund of information more comprehensive than that of the automobile manufacturer himself. This puts the tire man in a position to furnish the automobile manufacturer with the tire best suited to the requirements of the latter. The question of diameter of tires should always be left to the tire manufacturer, and in many cases the diameter of wheels would be altered if he were taken into consultation.

Although anything like exact data bearing upon tires was entirely lacking in the late run, it is a fact that no other line of progress in the field of motor vehicle manufacture was so apparent to the veteran of former runs, as the improvement in tires, evidenced by the lack of tire trouble. Almost as conspicuous was the ease with which tire repairs were effected, and the lack of the old exhibitions of dread displayed by the operators of the contesting vehicles as they set about a job of repairing punctures. A certain degree of satisfaction must be felt by every manufacturer of automobile tires in the United States at so creditable a showing, and every effort should be made to induce the Automobile Club of America to include in its records in future a detailed report on the work done in all its runs by the different tires entered.

SOLID vs. PNEUMATIC TIRES IN FRANCE.

By J. W. Perry (Paris).

THE automobile industry has brought about a revolution in many branches of trade, and developed in certain of them a perfection of manufacture that, a few years ago, would not have been thought possible. The automobile itself has become more than a "horseless carriage," and is no longer regarded as a toy or a pleasure vehicle; it is already a necessary and important agency in the transportation of passengers and goods. The rapid progress by the makers of automobiles in the perfecting of their motors has awakened new life in many industries by creating new demands for their products. The industry which has received probably the greatest impetus and the most benefit, though it has been forced into its present satisfactory position, is the rubber manufacture.

The development of high speed in automobiles was retarded for a time by the lack of a suitable tire to carry the vehicle. But when rubber manufacturers realized what was required of them they bent to their work, and, sparing neither material, time, nor money, brought out the tire which to-day is accepted as the standard all over Europe and largely in America. To the two great pneumatic tire manufacturers of Clermont-Ferrand (France) is due much of the credit for this progress.

In the incipency of the automobile industry these vehicles ran upon steel tires, and a little later a few of the more courageous *chauffeurs* tried the "Clincher" solid tire, which, although rolling out of the steel rims every few hours, were nevertheless accepted as better than steel. This held good for automobiles while the maximum speed remained at 15 to 18 miles per hour. But when motors were built to run at 25 and 30 miles an hour, the *chauffeur* felt the need of something more resilient than a solid tire, and the pneumatic was tried. The début was made with a section of 65 millimeters [=2½ inches], and as vehicles were made heavier and ran faster, larger sections were experimented with and adopted, until to-day a section of 120 millimeters [=5 inches] is widely used in France. This was the turning point as between solid and pneumatic tires. As soon

as the public became assured that a "pneumatic" permitted greater speed and more comfort, they discarded the solid tire. It may be said that this transformation occurred between the years 1898 and 1899.

No automobile manufacturer in France to-day thinks of talking to a solid tire maker relative to making yearly contracts. They are no longer used except, on rare occasions, on heavy trucks. But the making of annual contracts for pneumatic tires is one of the important problems to the automobile builder. The use of pneumatic tires in Paris has become epidemic. At first, owing to their high price, only automobile owners could indulge in the luxury of pneumatic tires, but since competition and improved methods have lowered the price, the number of users has increased enormously. The contagion attacked the *fiacre* (four-wheel cab) owner two years ago, and to-day he "has it as bad as any one."

There are about 17,000 cabs in Paris, only about 10,000 of which are in active service and pay city license. Four years ago there were all told about 6000 *fiacres* with rubber tired wheels—about 5800 with solid and 200 with pneumatic tires. On January 1, 1903, there were between 450 and 500 with solid tires and about 4000 with pneumatic. The other 1500 which formerly had solid tires have gone back to steel. There are tire contractors in Paris who will fit up a cab with "clincher" solid tires and rent them at 27 francs [= \$5.40] per month, and these contracts are made for two or three years, which accounts for there still being 450 to 500 on the streets of Paris. When these contracts shall have expired, the contractor intends to replace them with pneumatic.

Several American houses have attempted to introduce solid tires in Paris, but the attempts proved unprofitable and have been abandoned. The "wired on" solid tires proved even less successful than the "clincher" solid. The peculiar flint gravel which is scattered over the Parisian pavements uses up the solid tire and wears it out as if a file had been used on it. In

my personal experience I have never known a wired-on tire to last more than 8 or 10 months on a public cab. The contractor who rents out his "clinchers" tires at 27 francs per month can get 12 to 14 months wear out of them. This additional wear is due to the fact that the rubber is made of special form and contains 37 kilograms [=81½ pounds] per set of four wheels, while the wired-on tire requires on an average of only 27 kilograms [=59½ pounds].

The makers of wired-on tires could put in 37 kilograms of material, also, and get more wear, but as they do not rent their tires, but sell them outright, the prices at which they would be forced to sell would make their use prohibitive. Some one may say that the cab owner pays a high price for the "clinchers" tire when he pays 27 francs per month for 12 to 14 months, and that the wired-on would not be any dearer in the long run. This argument will not hold good, as anyone will understand who will notice the class of cabs mounted with solid tires. The cab with solid tires is generally ill kept, the horse is half fed, and the *cocher* ill dressed and surly. This combination generally means "insufficient capital and inability to pay"; therefore, they rent their tires. No self respecting cab owner will rent tires, as he prefers to be his own contractor and get all the benefit there is in the business for himself.

There are two good reasons why the cab owners have adopted pneumatic tires: (1) they last longer, and (2) they are more sought after by the clients. It may be difficult to convince some American readers that pneumatic tires outlast the solid, but the best proof of this statement is their general adoption by cab owners. A set of four pneumatic tires will last (with ordinary care) 13 months for front wheels, and 15 for rear wheels. When the tires are on cabs of a coöperative company they will last 15 months on the front wheels and 18 on the rear wheels. A tire may pick up a nail once in a while, but this puncture is quickly repaired by a workman on the company's premises.

Prices of pneumatic tires in Paris have fallen to 400 francs [= \$78.20] for a set of four, including four wire wheels with steel hubs turned up to fit the stub of the axle, and the whole mounted on the cab. This same outfit two years ago sold for 750 francs [= \$144.75]. This great reduction in price has made pneumatics cheaper than solid tires. The cab owner does not feel the outlay, because it is the public that "pays the freight." There are very few owners of a single cab; most of them are owned by men who have from 20 to 100 cabs, which they rent by the day to responsible *cochers*. The average rental without rubber tires is about 15 francs [= \$2.90] per day, with the privilege of changing horses once during the day. If the cab has pneumatic tires the price is from 2 to 3 francs more, or \$3.28 to \$3.47 per day. Cabs with solid tires are rented to the *cochers* at the same rate as the steel tired wheels.

The Parisian is now accustomed to wait until he finds a metal wheeled cab before he gets in. Nearly all pneumatic tires for cabs are mounted on wire wheels. The Parisian is evidently of the opinion that pneumatic tires on wood wheels do not give the same comfort as on metal ones. The pneumatic tired cab is always busy, and loads oftener, and the Parisian is more liberal with his *pour boire* than he would be if he used a steel or solid tired cab.

It is expected that there will be about 6000 pneumatic tired cabs in Paris by the end of this year, and if the two large cab companies adopt them, a cab on the streets of Paris without pneumatic tires will become as great a curiosity as was the first cab that appeared with pneumatics. This will simply be history repeating itself, for it is only a few years since great excitement was created by the appearance of the first automobile

with pneumatic tires. To day it is the automobile with solid tires that excites comment. So it will be with the *fiacre*. The carriage builders and owners of private carriages are also fast adopting pneumatic tires, which are put on in a neat manner by doing away with the wooden fellies; then metal sockets are slipped over that part of the spokes that were in the felly, and the pneumatic tire rim is screwed onto these sockets from the inside of the rim. This makes a neat job and a graceful one.

To resume, and to prove that the solid rubber tire is destined to disappear, I may say that, in round numbers, the total amount charged out for solid tires in 1902, by all makers, was about \$250,000, while for pneumatics for carriages and automobiles the amount was about \$3,500,000. I think these figures are sufficiently eloquent to tell their own story.

* * *

AUTOMOBILE TRADE OF FRANCE.

THE value of exports of automobiles from France during three years past, as officially reported, has been as follows:

	1900.	1901.	1902.
Francs.....	9,417,000	15,782,000	30,251,000
U. S. money.....	\$1,817,481	\$3,045,926	\$5,838,443

These figures, however, are not based upon selling prices, but result from the French government's official appraisal of motor vehicles in bulk at 10 francs per kilogram. It is asserted that the actual export values were considerably higher than shown in the official returns. At a recent dinner given in his honor by the Automobile Club of Great Britain, Baron Rothschild stated that seventy concerns, with 45,000 employes, are manufacturing automobiles in France, while if all the manufacturers of accessories were considered, employment is given to 180,000 people. The tire industry alone is of great importance. Baron Rothschild said that \$3,000,000 worth of tires were sold last year by one house, and several hundred thousand dollars worth by the smaller concerns.

SUBMARINE CABLES OF THE WORLD.

THE total length of submarine cables now amounts to over 200,000 nautical miles. Charles Bright, F. R. S. E., in a recent address before the London Chamber of Commerce, stated that they represented a total investment of about £50,000,000, while the present market value of their combined capital largely exceeded this figure. The cable construction and shipping output of Great Britain is about 100 nautical miles per day. The cost of construction to-day may be roughly estimated at £150 per mile. The cost of laying may be estimated at half as much again. A cable carefully manufactured and laid, if the conditions of the sea bottom be favorable, should be expected to last 30 years or more. It might be kept in operation indefinitely by the successive replacement of parts. The cost of maintenance is usually put down at £6 to £8 per mile per annum, though the possibility always exists that heavy expenses may be called for, for repairs. Deep sea cables have generally proved very remunerative. About 6,000,000 cable messages are now sent in a year, the number having increased out of all proportion to the increased mileage of cables.

In regard to the use of India-rubber as an insulator, Mr. Bright said: "Lest the scarcity of Gutta-percha should be seriously considered, attention may be called to the fact that a very considerable length—somewhere about 2500 nautical miles—of cable insulated with vulcanized India-rubber has been worked through for years, and is doing good service. India-rubber is superior to Gutta-percha for tropical waters infested with teredoos, or sword and saw fishes, such as abound in moderate depths."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

I THINK the trade outlook for the present year is certainly brighter than could have been predicted a year ago, for the months that have passed. Although there are no new works to record, at least none of any magnitude, more than one existing firm have gone in for large extensions.

In this connection may be cited Messrs. W. & A. Bates, Limited, of Leicester; The Avon India-Rubber Co., Limited, of Melksham; and the Irwell Rubber Co., Limited, of Manchester. Trade is proceeding in well worn channels as far as the bulk of manufactures is concerned, though special mention ought to be made of the bootheel pad, which is now being manufactured very largely as a novelty and in which a large trade is being done. To people who habitually wear down their bootheels while the soles retain their pristine vigor, no doubt the purchase of a couple of these pads represents a profitable investment, the expense being about a shilling. There are numerous registered patterns on the market, the differences being in shape and in the method of attachment to the leather. So far it cannot be said that the winter has been such as to make the heart of the dealer in rubber boots and shoes rejoice; except in one or two districts there has been no fall of snow worth mentioning. This class of business is still limited to two Scotch firms, the North British and the Victoria company, and the Liverpool Rubber Co., although to judge by the price lists sent out by other houses one would imagine that the number of *bona fide* manufacturers was larger. Reports from waterproof garment makers are still couched in despondent language, as far as rubber proofing is concerned, and the expected revival is somewhat slow in its appearance. There seems to be little doubt that the department which will absorb a largely increased amount of rubber this year compared with preceding years will be that dealing with motor tires, as Great Britain is rapidly increasing her output. The remarks made recently by the chairman of The New Grappler Pneumatic Tyre Co., Limited, with regard to the rapid increase of business during the last three months of the year, strongly support this prediction.

“FOR tubing for chemical purposes we look upon acid and alkali as the same thing.” Thus spoke a rubber manufacturer to me the other day, and I could not help thinking that the broadness of his views must militate somewhat against the success of this particular branch of his trade. The question of tubing for chemical works has become of some importance, and it surely behooves those manufacturers who essay to supply the demand for particular purposes that they should post themselves up to some extent on the subject. At the same time, as they rarely have an opportunity of seeing the tubing in use, it is not surprising that they are inclined to be somewhat credulous when they hear of its value. Keeping, however, to the point of acid and alkali, it ought to be remembered that rubber which would work well with dilute acids might prove very unsatisfactory with concentrated alkali, especially if it contained more than a small proportion of substitute. Then it must be remembered that the acids vary a good deal in their action. A tubing might withstand dilute sulphuric or hydrochloric acids for a long time, but soon come to grief if used for conveying nitric acid, even in a very dilute form. It would certainly seem desirable in answering queries as to chemical hose to inquire par-

ticularly as to the purpose for which it is intended and to select the mixing according to the lights of experience. I believe that the Dermatine Co. have paid special attention to this matter of hose for chemical works, to judge by the order books of certain prominent chemical works. It would be an unkind thing to attempt to class brewer's hose with chemical hose, although it is undeniable that chemicals of one sort and another do find their way into beer in this age of the advancement of science. With regard to brewer's hose, however, it may be pointed out that although a good deal of it may be used in connection with the beverage which we will allow to consist of malt and hops, yet a good deal is bought for yard or cleansing purposes and this strictly comes under the definition of chemical tubing.

SOME twelve months ago I referred to the fact that the use of rubber by British locomotive builders had practically died out; that is, as regards the engine fittings apart from continuous brake connections. Some new regulations of the Board of Trade may, however, give a fillip to the use of rubber in a certain direction which it may be of interest to mention. Under the new powers of the Railway Employment (Prevention of Accidents) act, 1900, it has been laid down that all locomotive engines, except those used exclusively for shunting purposes, ought to have power brakes in addition to hand brakes. This refers especially to goods and coal engines, and is to come into operation two years hence. The choice of brake lies practically between the steam brake and the Eames vacuum, in the latter of which a thick rubber diaphragm is used. From what I hear in the district of Newcastle-on-Tyne, so prominently associated with the evolution of the locomotive, the Eames brake, which is of course of American origin, is likely to come into increased use. There seems to have been considerable trouble, by the way, with the diaphragms as originally imported from America, trouble which has not been experienced with those of British manufacture. Of course this statement is only given for what it is worth, as it is quite possible that more extensive interviewing might produce opinions which would serve to neutralize it if not altogether to nullify it. With regard to the recommendations of the railway department of the Board of Trade, it should perhaps be mentioned that they are not obligatory, like acts of Parliament, but any neglect to observe, renders the railway companies liable to penalties if any accident can be attributed to their disregard.

IN a recent issue of the *Journal of the Society of Chemical Industry* I note a pretty full abstract of a paragraph which Dr.

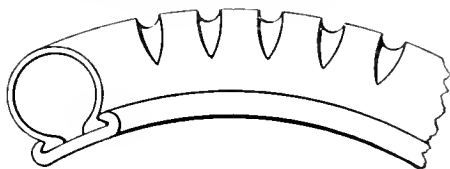
C. O. Weber contributed to our London contemporary on this subject last November. Although the detailed explanation of the effect of the wax may undoubtedly prove useful, it can hardly be said that there is anything particularly novel in the communication. Those who are engaged in the elastic webbing trade, which is so largely carried on in the vicinity of Derby, Leicester, and Nottingham, know that the custom of lubricating the cotton threads with paraffin wax during the weaving process is a very old one. In an important lawsuit tried at the Liverpool assizes twenty years ago, arising out of a claim for decayed elastic webbing, a good deal of scientific evidence was given with regard to the use of paraffin wax, and it was pretty clearly

IMPROVED
TRADE
PROSPECTS.RUBBER IN
LOCOMOTIVE
ENGINEERING.CHEMICAL
TUBING.PARAFFIN WAX
IN ELASTIC THREAD.

shown that danger attaches to the use of wax of low melting point, this naturally having a greater tendency to soften the rubber and accelerate atmospheric oxidation. A good deal of the scientific evidence which is to be found detailed in the two bulky volumes of transcribed shorthand notes of this trial would prove somewhat amusing "copy" if printed to-day, but we must be charitable and remember that our knowledge of the chemistry of rubber is quite of recent date. Cases of premature decay of elastic webbing were at one time more common than is the case at present, and in a great measure this had an influence upon the decline in favor of the elastic side boot. No doubt the use of copper mordants in dyeing the black cotton thread had a good deal to do with the trouble that arose; I don't know much about the practice prevailing at the moment, but seven or eight years ago I found a considerable amount of copper in some black elastic webbing that formed the subject of a complaint.

I HAVE it on good authority that it is proposed to establish at the Manchester School of Technology a very complete set of apparatus for testing dielectrics. The proposal is to go to 100,000 volts, a current considerably stronger than is obtainable anywhere in England at the present time. The school authorities hope to secure the coöperation of the local cable makers in this project, though as to what is the exact prospect of success in this direction I am at the moment unable to hazard a conjecture.

AT the Stanley automobile exhibition, in January, a good deal of comment was aroused by the prominent notice to the effect that the Maison Talbot were appointed sole London agents for the "Clincher-Michelin" tires, though no information was obtainable from officials of the North British Rubber Co. The Maison Talbot, it may be said, is connected with the Shrewsbury-Talbot Co., which has houses in Paris and Italy. In connection with this notice, it is understood that an arrangement has been made between the North British company and Messrs. Michelin et Cie., for the latter firm to make the "Clincher-Michelin" for sale in the United Kingdom, this being apparently somewhat of a counterblast to the arrangement existing between the Continental and Clipper companies. Presumably there will not be an appreciable difference between the "Clincher-Michelin" and the ordinary Michelin, except in matter of attachment, and those motorists who have wished to obtain Michelin tires and found difficulties in the way will now be able to get their hearts' desire. At the automobile show the rubber trade was not at all strongly represented. Moseleys' and the North British, however, having good exhibits. The Dunlop company are making great strides with their motor tire business, and I anticipate an increasing appreciation by the public of the work which Mr. Paterson, the manager of the Pará mills (Birmingham) is so carefully carrying out. From all accounts the tire tread they have produced, and which is proof against side slip, bids fair to remedy a long standing grievance. In this improvement the tread is somewhat increased in thickness, being



THE NEW DUNLOP TIRE.

cut transversely with segmental grooves about 1 inch deep by $\frac{3}{4}$ inch wide, the grooves occurring at center to center distances of $1\frac{3}{4}$ inches all round the tread, the object achieved being to thrust the mud skin of the road away, enabling a grip of the surface. The most recent flotation is the Collier Tyre Co., Limited, with a capital of £100,000, to acquire the business of

the Collier Twin Tyre Co., Limited (1900). I am informed that the tires will be made as heretofore, at the works of the Leyland and Birmingham Rubber Co. The automobile show which opened on February 4, at the Crystal Palace is, from all accounts, the best ever held in England. Should my representative discover anything of novelty in rubber I shall refer to it next month.

I AM not entitled to entrench on politics in these notes, and I may as well disarm suspicion at once by saying that I have no intention of doing so. I wish merely to refer to the Balata business. According to a friend of mine, who has just returned to this country after a three years' sojourn in Venezuela, there is a great waste of Balata trees going on, the regular method of collecting the sap being in the first instance to cut down the tree. It is generally understood that in Trinidad and the Guianas the wood, which has considerable value, is utilized, but this is quite the exception in Venezuela, it being allowed to rot on the ground. Of course, absence of means of traction accounts to a large extent for this, and at the present rate of development this difficulty is not likely to be rapidly surmounted. There can be no doubt that the difficulty of getting machinery and plant into the districts where minerals abound has been a great factor in retarding the development of the mining industry.

WHAT Dr. Weber has to say regarding sulphur in his new book ("The Chemistry of India-Rubber") will no doubt attract attention in the trade, though I think the following sentence requires a little modification: "It is surprising how tenaciously rubber manufacturers cling to the use of flowers of sulphur for vulcanizing purposes, considering that this product is one of the most variable and impure forms of commercial sulphur." Those manufacturers, such as the Union Alkali Co., of Soho Works, Manchester, who have for a long time supplied to the rubber trade a uniform neutral product, will, I imagine, feel that the author should have qualified his words so as to limit his denunciation to crude flowers of sulphur, the use of which, owing to its variable composition, can hardly be considered as in the manufacturer's best interests. I agree with Dr. Weber in his remarks about acidity, a point which has engaged the attention of the vulcanized rubber cable manufacturers closely. The milk of sulphur he refers to as having nothing to recommend it is, I think, hardly used at all at the present day, though I can remember the time when it was more largely employed. With regard to precipitated sulphur, of which he speaks highly, there is no doubt that the high price has been a bar to its adoption, and I am not satisfied that it is really worth the extra price to large manufacturers.

THE name of the new company established at Mouton Green, near Manchester, to manufacture an oil substitute for leather, is the British Pluviusin Co., Limited. In a recent reference I made in these notes to the subject, somebody on the staff of the paper altered it to "Plavium," which, though certainly a more generally convenient title, is not correct.

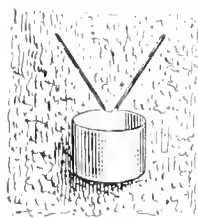
MR. KENNETH ROSE, of the Pará Rubber Plantation Co., when asked about the adulteration of rubber with *farinha* flour in the Amazon country, said that he knew of some districts where this was not likely, because *farinha* was worth more than rubber. The cost of food is high, wages are high, and rubber has to pay for it all. Where *farinha* is cheaper, however, it is mixed with the rubber in coagulation, being the only substance that can be used in this way without detection when the rubber lumps are cut open for export. Mr. Rose is now at his post on the river Casiquiare.

PREPARING "PARA RUBBER" IN CEYLON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have much pleasure in complying with your request for full particulars as to the method of collecting and coagulating rubber, up to the time of despatch for market, employed on the Kepitigalla estate [at Matale, Ceylon]. After considerable experience, with several methods employed in other parts of the globe, I think there is none other equal to the one adopted in Ceylon, and if this were used in other countries it certainly would mean a rise in price of at least 6 pence a pound for rubber.

The tool employed for tapping rubber trees on this estate is not equalled by any other in use, for its clean cut and absolutely safe incision, the tree not being damaged in the least. The shape is indicated by an accompanying cut.

In practice both hands are used to hold the wooden handle. Placing the corner of the angle *B* at the start of the cut, the tool is pulled downward two or three times in the same incision, care being taken not to cut into the wood. Though this may seem difficult at the beginning, a little practice will soon make the work easy. After two cuts have been made, converging in the shape of the letter V, another laborer places a small tin cup at the lower point of the V. Care should be taken that at this point the two cuts do not run together, but that a small space be left between them. The incisions should be about 4 inches long, with a space of at least 3 inches between them at the top. The same space (3 inches) should be left before beginning the next pair of incisions in going around the tree. This is absolutely necessary, for if the cuts join, the flow of sap to the tree will cease, and the tree will die. The first series of incisions should be made as far up the tree as a person standing on the ground can reach. Every second day a new band of incisions may be made lower down, as indicated in the drawing. About twenty rings or bands of incisions can be made around a tree within a distance of six feet from the ground. About five V shaped incisions may be made around a tree 40 inches in circumference.



INCISIONS WITH TIN ATTACHED.

The tin cups used are about two inches in diameter and two in depth. As the *latex* flows immediately after the cuts are made, the tapper's assistant at once presses the edge of a tin cup into the bark, no nails or putty or wax being required to hold it in place. A third laborer follows with a pail of water, putting a small quantity into each tin to prevent the *latex* from coagulating—a very necessary precaution, especially on a hot day. The tapping as above described is done early in the morning, and in this way three men can place 400 cups in a half day, and attend to the rubber obtained.

The contents of all the tins are stirred once or oftener, besides which the laborers must see to it that none of them overflow. Work is started about 6 A. M. and by 11 A. M. all the tins have been taken off and emptied into a pail. While one coolie carries the pail of *latex* to the factory, the others wash out the tins and at once replace them under the same cuts. The tins are again emptied, in the same manner, at 3 P. M., which completes the yield of *latex* from a given set of incisions. In

the meantime, after the tins are washed, the coolies pick off any rubber that may have dried in the wounds made on the last round, which is called scrap. So much for the collection of the *latex*; we come now to the curing of the rubber, which is simpler still.

As the *latex* is brought to the factory in a liquid state (mixed with water, which is necessary to enable the *latex* to go through the process by which the rubber is preserved), it is strained through a very fine wire mesh—a milk strainer, for example—into shallow tin pans, 7 inches square by 2 inches in depth, in which it is left to stand overnight. By morning the rubber will have coagulated naturally, without the use of any chemicals, and most of the water will have become separated from the pure rubber. The lump of rubber is then taken out and placed on

a table and gently pressed with the hand to exclude the water, after which a wooden roller worked by hand is passed over it, back and forth, until more of the water has been expressed, leaving a flat sheet of rubber

about 8 inches square and $\frac{3}{8}$ inch thick. The lumps of rubber thus made are placed on caned trays or frames about 6×3 feet, caned like the bottom of a chair, though not so closely woven. After the rubber sheets have remained on the trays for four or five days, they are hung to dry on wires stretched across the room, after which they will require frequent attention to prevent mildew, a man being detailed to rub off all mildew spots with a rag. About two months are required for the rubber to become thoroughly dry and free from white patches. So long as these patches appear, it is an indication of dampness and further drying will be required.

When thoroughly dry the sheets of rubber are ready for shipment, and are packed in boxes about 18×18 inches square and 8 inches deep—usually about 50 pounds to a box. The secret of the high prices obtained for rubber from Ceylon lies (1) in the straining of the *latex*, by which every particle of dirt is kept out, and (2) in the thinness of the sheets of rubber, which permit any one to see that they are free from dirt, sand, etc. No chemicals are used, and no heating is required. On the whole this is the simplest method, when one knows how, that could possibly be adopted. The rubber from most countries now comes to market in large pieces, and can conceal any amount of impurity, while in other cases the *latex* is allowed to dry on the stem of the tree and when pulled off contains a large percentage of bark and dirt, which mean loss to the buyer and extra work in the factory.

The last sales of rubber from this estate have brought probably the highest average price of any rubber sold in the world during the same period, and this is saying a good deal, namely: an average of 3s. 11d. per pound. The total output for Ceylon for 1903 will be about ten tons, of which this estate will send two tons.

FRANCIS J. HOLLOWAY.

Kepitigalla Estate, Matale, Ceylon, January 8, 1903.



TOOL FOR INCISING RUBBER TREE.



RELATIVE POSITION OF SERIES OF INCISIONS.

KEPITIGALLA ESTATE AND ITS PRODUCT.

THE Kepitigalla estate is situated in the Central province of Ceylon, in the valley of the Matale river, eight miles from Matale town. THE INDIA RUBBER WORLD of December 1, 1902 (page 80), contained some details regarding the extent of the rubber tapping on this estate, to August, 1902, by the manager, Mr. Holloway. It was stated at the time that the trees were planted at the rate of 150 per acre, at a distance which fitted them for shading cacao. His experience to that date pointed to one hundredweight (112 pounds) as the average yield per acre, based upon a result of tapping about 4,000 trees. He gave then also an estimate of the cost of preparing rubber and forwarding it to the seacoast, which equalled \$17 per acre. At 3s. 11d. per pound, the product of an acre would realize \$106 73, which, after deducting freight to London and brokers' commissions, should allow a very good profit.

THE INDIA RUBBER WORLD'S report of the London rubber auction of November 14, 1902, contained this item: "Ceylon—14 cases offered and retired, after 3s. 11½d. had been bid for fine (from Pará seed)." Amazon rubber at the same date brought 3s. 2½d. to 3s. 6d.—the latter being paid for fine old Bolivian. From the *Ceylon Observer* of December 8, 1902, it is learned that the Ceylon rubber referred to was produced by Mr. Holloway, on the Kepitigalla estate; besides, the very good prices

finally obtained for this rubber are given, as follows:

4 cases valued at 3s. 11d., sold at 4s.
8 cases valued at 3s. 11d., sold at 4s.
1 case scrap, valued at 2s. 8d., sold at 2s. 10d.

These cases contained 50 pounds each, except in the case of the scrap, which weighed 42 pounds—the total being 642 pounds, and the proceeds £125 12s. [= \$611.23.]

Mr. H. G. Tippet, managing director of the Liverpool Rubber Co., Limited, who has used some of the Ceylon rubber, says in regard to it, in a letter to THE INDIA RUBBER WORLD:

"The weight of the cases at present is irregular, roughly about 100 to 130 pounds, but they will probably settle down as the supply becomes regular to 1 cwt. (112 pounds) cases. The rubber is excellent—made up in round pancakes (just like buckwheat cakes), about ½ inch thick, and 6 inches diameter; semi-translucent—absolutely clean and dry—loss about 1 per cent. Quality equal to finest Bolivian Pará."

At the London rubber auction on January 23, sales included 19 packages, fine thin Ceylon biscuits (from Pará seed), at 4s. 2d. @ 4s. 3d.; fair to good clean scrap, 3s. 2d. @ 3s. 4½d. [= \$1.01½ @ \$1.03½ per pound for fine and 77 @ 81¼ cents for scrap]. Sales of Brazilian Pará on the same date were made at 3s. 9d. @ 3s. 9½d., spot. The source of this rubber is not now known to THE INDIA RUBBER WORLD.

AMERICAN RUBBER PLANTING COMPANIES.

PAN-AMERICAN PLANTERS' CO.

[Plantation "Santa Isabel," state of Oaxaca, Mexico. Office: Nos. 133-135 La Salle street, Chicago, Illinois.]

INCORPORATED under Indiana laws; capital, \$50,000, paid in cash. Own 5000 acres in the state of Oaxaca, between the Trinidad and Colorado rivers, just above where their conjunction forms the river San Juan, which empties into the gulf at Alvarado; also near the Vera Cruz and Pacific railway. Plantation certificates or bonds, two for each acre, will be issued, at \$150 each, payable in cash or monthly installments; they are non-forfeitable after 40 per cent. has been paid; in case of death of a subscriber after 50 per cent. has been paid, the full number of certificates will be delivered; 6 per cent. annual dividends promised from the beginning. Rubber will be the principal crop ultimately, but other crops will be cultivated, to afford dividends during the early years of development. Hon. Charles Foster, late governor of Ohio and late United States treasurer, president; C. M. Barnes, school books, and W. B. Stewart, M. D., vice presidents; Junius L. Burgess, railway auditor, secretary; John A. Wilferth, lately with Corn Exchange Bank, Chicago, treasurer. James Brydon, with ten years' experience in Mexico, is plantation manager.

BUENA VISTA PLANTATION CO.

[“Hacienda de Buena Vista,” San Juan Evangelista, canton of Acayucan, Vera Cruz, Mexico. Office: Elkhart, Indiana.]

INCORPORATED under Maine laws, November 15, 1902; capital authorized, \$2,000,000. Directors of the company own 5000 acres of land adjoining the well known Cockrell estate. Sugar, rubber, yuca, and "quick crops" are to be planted, and some land will be devoted to grazing. The Buena Vista Development Co. will develop and operate the plantation for a term of years, 90 per cent. of the net profits to go to shareholders in the plantation company. Forty acres are covered with rubber trees (*Castilloa elastica*) planted four years ago, and the property includes a sugar mill, saw mill, shops, and buildings. The company offers shares of stock—not acreage certificates—not

\$100, cash or in installments. Adolph D. Stock, milling, Hillsdale, Michigan, is president; B. F. Stewart, retired from flour milling, Chicago, first vice president; Dr. W. S. Cockrell, second vice president and resident plantation director; Frank A. Sage, former banker, Elkhart, Indiana, treasurer; Eugene Atkins, milling, Bristol, Indiana, secretary. The plantation staff includes Gerald Mahoney, graduate of the Armour Institute of Technology and an expert electrical engineer, and Edgar J. Hahn, a resident of Mexico for 12 years and an expert sugar man. One of the directors, R. P. Probasco, of Chicago, is mentioned as having been the organizer and an officer of six plantation companies in Mexico, with a combined capitalization of \$6,000,000.

SANTA BARBARA PLANTATION CO.

[Plantations, Santa Barbara, Honduras. Offices: Hammond building, Detroit, Michigan and Home Life building, Washington, D. C.]

ONE of a series of enterprises which a Michigan syndicate contemplates establishing in the valley of the San Pedro Sula, in Honduras. This company is incorporated under Michigan laws, with \$300,000 capital. The plantation is located in the state of Santa Barbara, in northwestern Honduras, bordered by navigable streams and intersected by the Honduras railroad, which connects with Puerto Cortez. At the outset 200 acres will be planted to rubber (300 trees to the acre) and 1200 acres to bananas, with the idea later of increasing the proportion of rubber. Quick growing crops may also be planted. The company offer for sale shares of \$10 each. Orran G. Staples, proprietor Riggs House, Washington, president; Edwin G. Madden, third assistant postmaster-general, vice president; Clay C. Cooper (Detroit, Michigan) secretary and treasurer.

NUMBER OF TREES PER ACRE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your February issue, in speaking of a rubber planting company on the Tulija river (Mexico), you mention that they purpose planting 600 trees per acre, to be reduced to 200 later. For a number of years I have been in connection with one of the

most practical rubber planters in Mexico, using various methods, and the results show that 160 trees per acre are all that should be planted. They develop more rapidly, and a tree 2½ years old planted in this way is much larger than I know to have been seen in Mexico by many persons who have visited plantations where trees were standing four years old, 200 per the acre. The plan of setting 500 or 600 trees to the acre and then thinning out I consider a very bad one. For one reason, the trees will not develop so rapidly, and another reason is that the young rubber tree is very tender, bleeding at the least scratch on the stem, branches, or leaves, and in thinning out one must be extremely careful or it will be found that the trees pulled up will not yield enough rubber to pay for the labor.

C. M. KENDALL.

Milwaukee, Wisconsin, February 6, 1903.

RUBBER VINES IN HONDURAS.

ALFRED K. MOE, United States consul at Tegucigalpa, Honduras, reports the existence in the Pijo mountains, in the department of Yoro, of "a vine growing in an uncultivated state, varying in diameter from 4 inches to 2 feet, which on cutting produces a sap the nature of which is rubber. These vines grow to 100 feet in length." The vine thrives at all altitudes and is said to be abundant. The same plant has been referred to in THE INDIA RUBBER WORLD of May 1, 1901 [page 234], and November 1, 1901 [page 40].

YIELD OF "PARA RUBBER" IN SELANGOR.

THE Straits *Agricultural Bulletin* (November, 1902) reports the record yield of a "Pará" rubber tree for one year, in the Far East, obtained by Cyril E. S. Baxendale, Jugra estate, Selangor, Malay States. Two *Hevea* seedlings planted, it is believed, in October, 1877—making them now 25 years old, from the seed—were tapped closely during two months of last summer. One tree, 89 inches in girth at one yard from the ground, had never been tapped before; the other, with a girth of 56 inches, had yielded 3 pounds during July, 1901. The result for 1902 was:

	Tree No. 1.	Tree No. 2.	Total.
Yield of fine rubber . . .	15 lb. 12 oz.	11 lb. 2 oz.	26 lb. 14 oz.
Yield of scrap	2 " 4 "	1 " 8 "	3 " 7 "
Total yield	18 lb. 0 oz.	12 lb. 10 oz.	30 lb. 5 oz.

RUBBER PLANTING IN GERMAN EAST AFRICA.

ON the plantation at Lewa, of the Deutsch-Ostafrikanische Plantagen-Gesellschaft, it is stated that 250,000 rubber trees had been planted to the end of November, 1902, of which 15,000 are expected to be ready for tapping this year. Some experimental tapping has produced rubber which was well reported on in Germany. The German East Africa Plantation Co., whose headquarters are in Berlin, was formed in 1886, with a capital of 2,000,000 marks, and has planted coffee very extensively, on its concession in the Usambara district, near the sea coast, opposite the island of Pemba.

* * *

THE *British North Borneo Herald* reports an agreement entered into by the governor of British North Borneo with W. Alleyne Ireland, of the United States, for the formation of an American company to work Gutta-percha and India-rubber in that colony. The lessee shall enjoy for two years the sole right to select and acquire tracts of rubber or gutta forest or land in that territory.

=We have received from Missouri a pamphlet discrediting rubber planting in Mexico, alleging that the promises of the planting companies are too good to be true. The pamphlet is issued by a company offering Missouri lands for sale, at \$3 to \$5 per acre, payable in instalments, that "in the very near future" will be worth \$50 to \$500 per acre. Can any rubber planting company promise better than this?

LITERATURE OF INDIA-RUBBER.

REPORT ON *HEVEA BRASILIENSIS* IN THE MALAY PENINSULA. By Stanley Arden, Superintendent Experimental Plantations, Federated Malay States. Taiping: Government Printing Office. [Folio. Pp. 28.]

THIS is an official report, treating of the introduction of "Pará rubber" into the Far East; methods of cultivation, extraction of latex, and preparation for market; the rate of yield; and estimates of cost of opening and maintaining a rubber plantation. Mr. Arden has summarized all the authentic details available, from numerous plantations, some of which will appear at an early date in these pages. He promises a further report on the quality of rubber produced by the various methods described in this pamphlet.

A NEW journal devoted to rubber interests, and the first in the French language, has been established in Brussels, *Le Moniteur du Caoutchouc*, by Gustave van den Kerckhove. While its scope will embrace industrial and commercial features as well, it is evident from the contents of the first issue (dated February) that special attention is to be given to the development of the African sources of rubber, with which subject M. Kerckhove has become exceptionally familiar during his several years experience as an expert in the Antwerp rubber market. *Le Moniteur*, however, is international in scope, and the first number is accompanied by a map of rubber concessions in Bolivia. The new journal has our best wishes, and we shall look forward to seeing its influence shown in an increasing interest in rubber matters in the French speaking countries. [Bureaux: 3, Quai a la Chaux, Bruxelles; 20 francs per annum.]

THE Calcutta journal started eleven years ago as the *Indian Gardening*, in time added a planting section which has developed into the more important department of the paper. The title has been changed, therefore, to *Indian Planting and Gardening*, besides which the paper has been enlarged and made one of the best appearing journals in the Far East. Its very capable editor, Mr. H. St. John Jackson, F. L. S., F. R. H. S., has followed with sympathetic interest the progress in rubber cultivation, with which his readers have been kept well informed.

IN CURRENT PERIODICALS.

DIE Kultur von Kautschuk liefernden Bäumen in Neuguinea. By W. Kolbe. [*Castilloa elastica* has been grown for several years in New Guinea as coffee shade and in connection with cocoanuts. *Ficus elastica* and *Hevea* have also been planted.]—*Der Tropenpflanzer*, Berlin. VII-1 (January, 1903) Pp. 20 24.

Ist die Anlage einer staatlichen Guttaperchapflanzung in Kamerun zu empfehlen? By Paul Preuss, FH. D. [Reasons for regarding as impracticable Dr. O. Warburg's suggestion of a state controlled Gutta-percha plantation in Kamerun.]—*Der Tropenpflanzer*, Berlin. VII-1 (January, 1903.) Pp. 24 28.

Une Plantation de Caoutchoutiers au Congo. By G. Bemelmans. [Details of Planting 370½ acres, by one of the Congo trading companies, with Pará and Ceará rubber, *Castilloa elastica*, *Kickxia*, and Balata.]—*Revue des Cultures Coloniales*, Paris. XII-116 (January 5, 1903). Pp. 1 6.

OTHER PUBLICATIONS RECEIVED.

"MODERN MEXICO'S" STANDARD GUIDE TO THE CITY OF MEXICO and Vicinity. By Robert S. Barrett. Third edition—1902-03. City of Mexico and New York: Published by *Modern Mexico*. [8vo. Pp. 186. Price, 50 cents.]

THIS is not a mere collection of travel routes or perfunctory description of places. It has been written, rather than compiled, and presents much information regarding the country and the people and their customs, of a character to aid the tourist in Mexico in finding readily what is likely most to interest him, and in understanding what he sees. Not the least valuable feature of the book is its wealth of illustrations, a sight of which will tempt lovers of the picturesque who have not seen Mexico to wish to visit that country.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the calendar year 1902, compared with four years preceding, not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
December, 1902....	\$ 66,351	\$107,507	\$ 186,778	\$ 360,636
January-November....	671,906	958,685	1,825,127	3,455,118
Total, 1902.....	\$738,257	\$1,065,592	\$2,011,905	\$3,815,754
Total, 1901.....	608,116	974,018	1,743,882	3,326,016
Total, 1900.....	528,382	721,085	1,559,049	2,808,516
Total, 1899.....	(a) 279,069	327,139	1,475,380	2,081,588
Total, 1898.....	(a)	224,734	1,440,492	1,665,226

(a) Included in "All Other" prior to July 1, 1899.

Number of pairs of rubber boots and shoes exported:

In 1897.....	412,627	In 1900.....	1,399,285
In 1898.....	400,069	In 1901.....	2,408,776
In 1899.....	621,069	In 1902.....	2,377,743

Value of exports of reclaimed rubber:

1898.	1899.	1900.	1901.	1902.
\$296,214	\$431,136	\$503,282	\$355,682	\$382,520

RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during four weeks ended January 27, 1903:

Australia... \$12,034	Denmark... \$ 2,074	New Zealand \$13,672
Argentina... 828	Ecuador... 2,140	Portugal... 131
Belgium... 6,100	France... 8,593	Peru... 52
Brit. Africa... 12,369	Germany... 10,613	Philippines... 4,006
Brazil... 949	Great Britain 51,334	San Domingo 143
Brit. E. Ind. 1,183	Haiti... 10	Spain... 137
Brit. W. Ind. 592	Italy... 3,610	Sweden... 75
Colombia... 714	Japan... 3,538	Switzerland... 289
Cuba... 6,935	Mexico... 2,531	
China... 150	Norway... 1,572	Total... \$148,220
Central Amer 202	Newfoundld. 1,070	
Chile... 101	Netherlands. 473	

IMPORTS INTO THE UNITED STATES.

	1900.	1901.	1902.
India-rubber Goods	\$536,448	\$462,703	\$562,997
Gutta-percha Goods.....	252,238	121,485	121,123
Total	\$788,686	\$584,188	\$684,120
Reexports.....	21,819	14,288	4,655
Net Imports	\$766,867	\$569,900	\$679,465

GERMANY.

THE table at the foot of this page exhibits in detail the values

in marks of imports and exports of India-rubber manufactures for three years past, from official sources.

RUBBER BOOTS AND SHOES.

IMPORTS and exports (in kilograms) for three years:

FROM—	1900.	1901.	1902.	TO—	1900.	1901.	1902.
Russia.....	450,100	532,700	537,300	G. Britain ..	150,000	137,500	195,100
U. S. states	35,100	55,500	119,300	Roumania ..	.....	.....	22,200
Sweden.....	12,900	51,000	41,700	Switzerland..	10,000	42,000	10,700
G. Britain.....	39,800	28,200	14,500	Not stated....	125,300	79,200	108,200
Austria.....	93,000	27,000	9,100				
Not stated.....	4,000	10,800	18,500	Total	287,200	236,000	343,000
Total.....	637,900	797,100	733,700				

AUSTRIA-HUNGARY.

OFFICIAL returns of values of rubber goods in commerce:

	1901.	1902.
Imports	\$2,199,511	\$2,275,715
Exports.....	1,699,426	1,849,245

Imports were smaller with respect to soft rubber goods, which amounted to \$587,685, largely from Germany; smaller for rubber shoes, \$288,047, mostly from Russia; and larger for rubber thread, \$370,110, mainly from Great Britain. Exports were larger in the items of hard rubber goods, \$416,231; fine soft rubber goods, \$322,141; rubber shoes, \$464,383; and elastic webbing, \$221,469.

RUBBER BOOTS AND SHOES.

IMPORTS and exports (in kilograms), by countries, for 1902:

FROM—	Kilos.	FROM—	Kilos.	FROM—	Kilos.
Russia.....	174,400	France.....	400	Ret'n'd goods	6,500
Germany.....	13,900	Denmark	300		
United States. 10,800		Canada	100	Total.	218,300
Great Britain.. 7,100		Servia	100	Total, 1901. 200,400	
Sweden.....	4,600	Norway.....	100		
TO—	Kilos.	TO—	Kilos.		
Germany.	115,500	Greece	23,100	Bulgaria	3,700
France.....	93,000	Great Britain . 19,900		Algiers.....	2,900
Roumania	79,600	Belgium.....	18,200	Other lands...	3,300
Turkey.....	69,200	Switzerland... 16,800			
Italy.....	62,000	Holland.....	10,900	Total.....	571,900
British India. 40,600		Hamburg.....	9,900	Total, 1901. 708,600	

FRANCE—COMMERCE SPECIAL.

VALUES of rubber goods imports and exports for three years:

	1900.	1901.	1902.
Imports.	francs 15,394,000	16,290,000	16,552,000
Exports.....	10,381,000	8,898,000	9,826,000

The movement for 1902, classified officially, was as follows; values being stated in francs:

	Imports.	Exports.
Unvulcanized sheets and vulcanized threads...	5,699,000	.....
Elastic tissues.....	893,000	2,864,000
Overlaid tissues.....	68,000	94,000
Card tissues.....	382,000	5,000
Made up clothes.....	513,000	907,000
Shoes.....	2,673,000	941,000
Belting, hose, tires, etc.....	6,324,000	5,015,000

Total..... 16,552,000 9,826,000
U. S. gold. \$ 3,194,536 \$1,896,418

IMPORTS.			GERMANY.		EXPORTS.		
1900.	1901.	1902.	CLASSIFICATION.		1900.	1901.	1902.
2,750,000	2,348,000	2,468,000	... Rubber threads and sheets...		2,755,000	2,871,000	3,770,000
174,000	414,000	482,000	... Bicycle parts (solid tires, etc.).		<i>a</i>	<i>a</i>	<i>a</i>
1,343,000	734,000	784,000	... Textile goods coated with rubber		21,091,000	11,962,000	24,243,000
192,000	234,000	228,000	... .. Hard rubber goods.....		7,630,000	7,393,000	8,916,000
3,668,000	4,243,000	4,402,000	... Rubber boots and shoes ...		1,580,000	1,318,000	1,901,000
209,000	196,000	290,000	... .. Fine soft rubber goods...		1,446,000	1,047,000	1,054,000
78,000	107,000	105,000	... .. Toys of rubber.....		<i>b</i>	<i>b</i>	<i>b</i>
3,113,000	3,104,000	3,583,000	... Waterproof wearing apparel...		4,644,000	3,970,000	4,678,000
89,000	73,000	354,000	... .. Tires, etc., with fabrics. ...		<i>c</i>	<i>c</i>	<i>c</i>
74,000	59,000	49,000	... Elastic fabrics and hosiery...		259,000	339,000	329,000
....	....	....	... .. Hemp hose, etc		1,484,000	1,796,000	2,527,000
46,000	43,000	34,000	... .. Hard rubber		405,000	306,000	229,000
....	....	....	... Unclassified rubber goods .		147,000	140,000	172,000
11,736,000	11,555,000	12,679,000	..... Total in Marks.....		42,484,000	31,142,000	46,776,000
£573,958	£565,106	£620,076	..... Total, Sterling.....		£2,077,714	£1,523,016	£2,287,621
\$2,793,168	\$2,750,090	\$3,017,602	..... Total, U. S. money.....		\$10,111,192	\$7,411,756	\$11,132,708

a, c Included in exports of Bicycle Parts, all sorts [which amounted in value in 1902 to 11,037,000 marks; value of rubber parts not stated.]

b Included in exports of Toys, all sorts [which amounted in value in 1902 to 55,447,000 marks; value of rubber toys not stated.]

NEW USE OF RUBBER BALLOONS.—At the last meeting of the international aeronautic commission, Herr Assmann delivered a lecture on the uses of rubber balloons, such as are now known as the toy balloons, for the purpose of registering the temperatures in the highest air planes. Within the near future Herr Assmann will cause one of those balloons, fitted with a registering apparatus, to ascend.—*Gummi-Zeitung.*

THE WORLD'S TRADE IN WASTE RUBBER.

THE imports of India-rubber scrap into the United States, first reported by the customs authorities for the fiscal year 1890-91, amounted in that period to only 488,163 pounds, of the average import value of 3.9 cents. One half of this amount was credited to Great Britain, another third to Germany and Canada, and the small remainder to various countries. During the fiscal year 1901-02 the imports of this material reached the enormous total of 22,894,900 pounds, of the average import value of 6.2 cents, or a total value of \$1,437,960. For the numerous sources of this large quantity, and the yearly development of the supplies from each country, reference is made to the table at the foot of this page. The receipts from Germany alone, it will be seen, amounted to 8,716,907 pounds, and from the Russias practically as much. Nearly 3,000,000 pounds arrived from Canada, and over 1,000,000 pounds from Great Britain.

These figures are of interest, in the first place, as indicating the important place which the use of reclaimed rubber has gained in the rubber manufacture, for all this waste is, of course, imported into the United States to be converted into new raw material, to be distributed again to all countries where the rubber industry exists. Not only is the quantity above stated to be taken into account, but the collections of waste rubber in the United States, which, being the largest consumer of rubber goods of any country in the world, supplies larger quantities of waste than any other. It is possible, indeed, that the amount of waste rubber collected in this country in the year 1901-02 was sufficient, added to 22,000,000 pounds of imports, to make a total of 100,000,000 pounds. Supposing the whole to have yielded 80 per cent., by weight, of reclaimed rubber, the total produced would have been 80,000,000 pounds. These figures may be too large, but there is further to be considered the use of recovered or devulcanized rubber in not a few European factories, prepared in their own plants, from waste materials which do not appear in the above estimates. The amount of reclaimed rubber used, in view of all these facts, must be within 20 per cent. as great as that of all the new rubber, of whatever grade, consumed.

But these figures have another bearing. Nearly 20,000,000 pounds of the waste rubber imported into the United States last year was derived from Europe, and figured in the official statements of the India-rubber movement of various European countries, no separate classification of rubber waste yet having been adopted by them. So long as this confusing element exists in their rubber statistics, it will be impossible to determine how much crude rubber actually is imported and exported. Undoubtedly, however, the rubber movement in most of the countries referred to is overstated, to the extent that rubber waste is included in the customs returns.

For example, the British import returns long have embraced "Caoutchouc" from Russia, though it is well known that England does not receive any crude rubber from that country. Such imports credited to Russia in the latest British returns have been as follows:

	1897.	1898.	1899.	1900.	1901.
Pounds.....	933,512	2,311,120	2,196,992	4,260,928	4,150,160

All of these amounts are clearly old "galoches" and were they entered as such, the result would be a material modification of the returns of the crude rubber movement in England. A like condition exists with reference to German statistics of rubber imports. In the latter country crude rubber is reported to have been received, not only from Russia, but from several other European countries, not one of which is likely to be an exporter of this material, as follows:

FROM —	1899.	1900.	1901.	1902.
Russia..... pounds	7,267,260	4,061,420	4,325,200	4,309,140
Finland.....	55,000	255,420	302,500	253,660
Denmark.....	64,240	134,860	125,180	186,560
Norway.....	130,020	396,440	198,220	77,220
Sweden.....	439,780	843,260	863,940	1,217,920
Austria-Hungary.....	118,800	189,860	119,020	500,720
Turkey.....	174,020	240,900	186,340	144,760
Roumania.....	.....	.....	55,440	75,240
Switzerland.....	.....	.....	129,360	143,660

Total..... 8,249,120 6,122,160 6,305,200 6,908,880

Some scrap must have imported also, from Great Britain. Next will be given a comparison of the German official returns of India-rubber exported to the United States during

IMPORTS OF SCRAP RUBBER INTO THE UNITED STATES—FISCAL YEARS ENDING JUNE 30.

Countries.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
Austria-Hungary.....pounds	.....	.....	.....	.....	.....	.....	.....	.....	32,080	.....
Belgium.....	.....	.....	3,916	12,229	16,928	74,683	196,760	300,419	264,700	399,630
Denmark.....	24,238	.....	52,053	46,628	15,424	129,511	90,075	7,273	54,970	.....
France.....	24,610	68,211	52,015	42,868	41,264	84,769	64,782	190,901	225,792	316,281
Germany.....	104,653	707,647	742,259	1,910,033	1,291,353	2,857,606	3,560,065	9,810,311	5,797,120	8,716,907
Netherlands.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	111,315
Portugal.....	.....	.....	.....	.....	.....	.....	.....	.....	2,530	.....
Russia—Baltic.....	22,000	.....	65,954	398,321	563,998	1,582,862	2,993,763	3,955,387	4,886,460	5,122,607
Russia—Black sea.....	.....	.....	65,407	.....	300,815	132,190	329,495	1,092,129	1,326,305	3,413,630
Spain.....	.....	.....	.....	.....	.....	.....	.....	.....	4,300	.....
Sweden-Norway.....	.....	10,675	15,540	.....	.....	14,267	33,800	95,175	251,940	363,448
Turkey in Europe.....	65,233	131,621	67,405	51,437	18,178	50,988	115,143	123,866	83,498	243,352
United Kingdom.....	117,929	188,997	254,480	340,439	593,798	269,652	426,790	1,006,513	996,484	1,089,082
British North America.....	548,067	664,498	583,871	659,830	398,913	2,051,617	2,675,147	2,497,908	1,299,270	2,989,683
West Indies.....	3,813	2,359	115,987	.....	19,736	.....	4,220	1,050	6,925	26,988
South America.....	.....	.....	.....	.....	.....	79,535	.....	300	.....	.....
British East Indies.....	.....	.....	.....	409,752	389,238	2,140,358	.....	.....	.....	.....
Other countries.....	.....	.....	1,637	3,140	4,300	19,972	23,534	12,315	2,856	1,977
Total..... pounds	910,543	1,774,008	2,032,563	3,874,677	3,653,945	9,488,327	10,513,604	19,093,547	15,235,236	22,894,900
Import Value.....	\$25,633	\$55,803	\$63,112	\$123,068	\$113,722	\$339,374	\$462,044	\$1,249,231	\$988,316	\$1,437,960
Average per pound.....	2 8 cts.	3 1 cts.	3 1 cts.	3.2 cts.	3.1 cts.	3 6 cts.	4.4 cts.	6 5 cts.	6.5 cts.	6.2 cts.

the three last calendar years, of the United States returns of crude rubber imported from Germany in the same period—weights in pounds :

	1900.	1901.	1902.
Exports reported by Germany.....	5,912,320	6,390,780	8,502,340
Imports reported by United States..	1,428,339	1,832,558	2,393,998

No doubt if figures were at hand which permitted a closer adjustment of the periods of time than is now possible, the total exports under the head of rubber from Germany to the United States would be found to balance pretty closely the combined imports credited to Germany by the United States for crude rubber and scrap.

It is evident that Russia must be a very large exporter of rubber waste. Grouping in one table the imports by the different countries from Russia, so far as reported—fiscal years for the United States and calendar years in other cases—we have :

	1899.	1900.	1901.	1902.
United States.....pounds	3,323,258	5,047,516	6,212,765	8,530,237
Germany.....	7,267,260	4,061,420	4,325,200	4,309,140
Great Britain.....	2,196,992	4,260,928	4,150,160	
Austria-Hungary.....				67,980

Allowing 3,000,000 pounds to have been imported by Great Britain in 1902, the above table indicates an average annual export by Russia, for four years of upwards of 14,000,000 pounds.

AUSTRIAN RUBBER SCRAP MOVEMENT—1902.

[From Official Returns.]			
FROM—	Pounds.	TO—	Pounds.
Germany.....	140,580	Germany.....	441,100
Russia.....	67,980	Hamburg.....	20,000
Roumania.....	23,760	Great Britain.....	5,280
Great Britain.....	7,920	Sweden	3,960
Other countries.....	7,920	Other countries.....	4,180
Total.....	248,160	Total.....	471,900
Total, 1901.....	406,120	Total, 1901	211,860

JOBBERS AS DISTRIBUTORS OF RUBBER FOOTWEAR.

AT the second annual convention of the National Shoe Wholesalers' Association of the United States, held in Boston on February 4, Colonel Samuel P. Colt, president of the United States Rubber Co., spoke for the manufacturers of rubber shoes on "The Relations of Rubber Manufacturers to Wholesalers and Retailers." He said, in beginning, that about four-fifths of the product of the United States Rubber Co. is sold to wholesalers (jobbers), and only about one-fifth direct to retailers. Colonel Colt continued :

"While there may be a present tendency in certain lines of goods to pass by the middlemen, the fact that most of the jobbers of rubber footwear are also jobbers of leather footwear, and that the two lines can be handled together more economically than either by itself, is a special reason for my belief that for a long time to come the manufacturers of rubber footwear will continue to sell the larger portion of their product to the wholesaler.

"Under what conditions should the rubber manufacturer sell to the wholesaler? This may be said to be the live question of the hour in which you as well as ourselves are deeply interested.

"Shall the manufacturer, after parting with his title to the goods, attempt to control the price at which these goods shall be resold, or shall he leave such price to be regulated by agreement between the wholesalers themselves, or to be governed by the natural laws of trade?

"The first method, namely, the control of the price by the manufacturer, as you all know, has been in vogue for some years past. Although it has its advantages, we cannot overlook the fact that one of our states after another has passed laws to prohibit the control of the price of a commodity after the title or ownership has passed to another. Further, we know that such restriction on the part of the manufacturer may be said to have the effect of 'holding an umbrella' for such other manufacturers as sell their goods direct to the retail trade, or for such as sell them to the wholesaler without restriction.

"It would therefore seem as though the question of the price between the wholesaler and the retailer is one that should be more properly regulated by the wholesalers themselves, and that the organization of the National Shoe Wholesalers' Association of the United States has now reached a stage of perfection where this important matter can, with safety and justice to all concerned, be left in their hands.

"It is the ambition of the United States Rubber Co., first, to

manufacture the best rubber boots and shoes that can be made; second, to maintain the quality and standard of its goods at all hazards; third, to sell the largest quantity possible; and fourth, to be satisfied with a small margin of profit. The goal we seek is to supply substantially all the rubber footwear consumed in the United States, and we wish to have a policy broad enough to enable us to come as nearly as possible to its attainment. The United States Rubber Co. at present supplies about three-fourths of the rubber footwear sold in this country. All of the large and prosperous rubber boot and shoe companies, including those originally licensed under the Goodyear patent more than a half century ago, and those who since, by long years of successful manufacture, have built up valuable trademarks, are now included in the United States Rubber Co.

"We want your coöperation in the future as in the past in distributing our great product. We want to still further increase the volume of our business, and we want you to help us to do so.

"It is our belief that the system which has prevailed for some years past, of our attempting to regulate your prices to the retailer, is injurious to the manufacturer, is against the natural laws of trade, and has passed its usefulness; and that you, through your well organized associations, are in a better position to control the matter than we are.

"Let us have your hearty coöperation this year, and if we find defects in what we are now attempting to do, we can correct them another season. Policies should change with changed conditions. A company with a limited capacity and high reputation for its goods would sell its product under almost any conditions, but a great concern like the United States Rubber Co., with the ambition to supply as nearly as possible all the rubber footwear consumed in the United States, must, I believe, have a breadth of policy in the sale of its goods commensurate with its undertaking.

"It is my opinion that the rubber manufacturer should sell to the wholesaler, and should be satisfied with a small percentage of profit, looking to a large volume of business to bring about satisfactory results, and that the manufacturer should leave to the wholesalers the question of regulating the prices at which they shall resell to the retailer the goods which they have purchased and own, and that the prosperity of the one must in the end lead to the prosperity of the other. We are both embarked upon the same voyage.

"I cannot close without thanking the wholesalers of rubber

footwear in the United States for their long continued loyalty to the United States Rubber Co. I assure you it is appreciated. We hold you as our friends, and we are yours. We ask you to coöperate with us in the future as you have in the past, to the end that we, by our united efforts, may bring to the consumer the best articles of rubber footwear that can be manufactured, at the lowest prices possible, and with a fair margin of profit to us both."

* * * *

THE officers of the Shoe Wholesalers' association are: George Hutchinson, Boston, president; O. C. Smith, Chicago, Daniel P. Morse, New York, and J. K. Orr, Atlanta, vice presidents; George C. Houghton, Boston, secretary and treasurer. The plan of organization includes a "rubber committee," composed this year of *Irving R. Fisher*, of Nathaniel Fisher & Co., New York; *A. H. Berry*, of A. H. Berry Shoe Co., Portland, Maine; *J. W. Craddock*, of Craddock, Terry & Co., Lynchburg, Va.—all of whom served last year—and *William Logie*, of Grand Rapids, Mich.

GERMAN ELECTRICAL WORKS COMBINING.

THE work of amalgamating the electrical industries of Germany has made marked progress of late. In December a working agreement was reached between the Allgemeine Elektrizitäts Gesellschaft and the Union Elektrizitäts-Gesellschaft, both of Berlin. Each is to retain a separate corporate status, but directors of each company will sit on the board of the other. Each company will confine its efforts to the special field for which it has proved itself best fitted, instead of both competing in the whole electrical trade. The new arrangement is to be effective for 35 years from July 1, 1903, combined net profits to be distributed in the ratio of 3 to 2 to the shareholders of the Allgemeine and Union companies.

The Allgemeine Elektrizitäts-Gesellschaft, founded in 1883 as the German Edison Electric Co., assumed their present name in 1887. The capital now is 60,000,000 marks. The dividend was 15 per cent. in 1897-98 (on 47,000,000 marks); 15 per cent. for the next two years on the present capital; 12 per cent. in 1900-01, and 8 per cent. last year. The average rate for nine years has been 12.56 per cent.

The Union Elektrizitäts-Gesellschaft was founded in 1892, to control the Thomson-Houston patents in Germany and several other Continental countries. The capital is 24,000,000 marks, and there is an issue of bonds of 1,000,000 marks, the proceeds of which have not been drawn upon. Dividends for nine years past have averaged 8.89 per cent.

Now, it is reported, a decision to unite has been made by the boards of two other great companies, subject to the approval of their shareholders—the Siemens & Halske Actiengesellschaft (Berlin) and the Elektrizitäts-Aktiengesellschaft vormals Schüickert & Co. (Nürnberg). The capital of the Siemens & Halske company is 54,500,000 marks, and there is a bond issue of 29,230,000 marks. The dividend rate was 10 per cent. for the four years ending 1899-1900; 8 per cent. in 1900-01, and 4 per cent. last year. The capital of the Schüickert company is 42,000,000 marks, plus 28,000,000 marks in the Continental Financing Co. Though the profits amounted to 6,240,000 marks in 1900-01, the company were obliged to pass their dividend, and no dividend was declared last year.

The two companies last named, it is understood, will share equally in a new company capitalized at 90,000,000 marks, the arrangement to take effect in April.

It is now felt that bottom has been touched in the depression which the electrical industry has shared with many other

branches of business in Germany. In order to be better prepared for taking advantage of the improved conditions in prospect, the electrical concerns seem disposed to wipe out their "watered capital," and to check the reckless competition which, in former years, has prevented the realization of profits commensurate with the volume of business. One consideration of weight is that most of the companies mentioned have invested capital in electrical works in Russia, without the results hoped for, and by concentration of interests in that field it may be possible yet to develop a profitable business. Besides, the management of the companies under the new régime is likely to be directed less by the banking interests concerned. The prospect is that more uniform prices will be fixed by agreement between the two great combinations.

It appears that the Russian Siemens & Halske Co. (St. Petersburg), with a paid up capital of 7,000,000 rubles [= \$3,598,000], closed the business year 1901-02 with a loss of 299,690 rubles, after having earned a dividend of 2½ per cent. in the previous year. Sales were smaller last year, and prices lower. The Russian Schüickert Co. (St. Petersburg) also has failed to fulfil its anticipations. Net profits for 1900-01 amounted to 143,516 rubles, which amount was carried forward, instead of being disbursed in dividends. The balance sheet for last year shows this amount to have been lost, and 13,690 rubles in addition. The Schüickert company were lately considering the forming of a new company to take over a concession granted for erecting and operating a central station at Warsaw, to avoid the loss of a forfeit of 200,000 rubles [= \$102,800]. One trouble with the Russian factories, based on German capital, is that they have been undersold by other firms in Germany, and the Russian ministry probably will be asked for an advance in duty.

Nearly all the German electrical firms have joined a new association for the protection of their common interests, which has shown favorable results already in the promotion of their export trade. Relations have been established with the government, whereby valuable communications are received from various quarters, and the efforts of the association are supported in other ways by the authorities.

From the returns of the imperial statistical office the following items of German exports for two years have been selected, as representing the chief lines of production of the electrical manufacturing companies for foreign consumption:

	1902.	1901.
Electrical machinery..... marks	25,520,000	19,935,000
Telegraph and telephone supplies.....	11,020,000	9,549,000
Rubber or Gutta-percha insulated cables....	3,358,000	5,600,000
Other insulated electric cables.....	10,429,000	14,523,000

These values, for each of the two years, aggregate about \$12,000,000 in American currency. The figures were even larger for 1900, the last year before the business depression.

In this connection may be mentioned the exports of electrical machinery from the United States, by fiscal years, which have been separately listed by the customs officials only during five years past as follows:

1897-98	1898-99.	1899-00.	1900-01.	1901-02.
\$2,052,564	\$2,736,110	\$4,340,992	\$5,812,715	\$5,379,746

Exports of electrical apparatus, other than machinery amounted in value in 1901-02 to \$3,631,759, making a total of electrical wares for the year of \$9,011,505. Exports of electrical apparatus, prior to last year, were embraced with other goods.

British official returns relating to "electrical goods and apparatus" evidently do not embrace machinery, which is included in the same tables with other machinery. So far as the returns are available, the figures show:

	1900.	1901.	1902.
Imports	£ 1,265,946	£ 849,257	£ 684,974
Exports.....	2,801,401	3,147,985	2,835,905

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED JANUARY 6, 1903.

- N**O. 717,614. Composition horseshoe. George I. Peacock, Buffalo, New York.
- 717,674. Tobacco-pouch. Edward Hafer, Cincinnati, Ohio.
- 717,830. Dress shield. Leta M. Ferguson, Washington city.
- 718,053. Water bag [with exterior removable bag or cover]. Thomas Gregory, Akron, Ohio, assignor of one-half to Thomas W. Miller, Akron.

Trade Mark.

- 39,612. Fountain pens. Guiterman, Rosenfeld & Co., New York city. *Essential feature*—The word "Alderman." Used since January 29, 1900.

ISSUED JANUARY 13, 1903.

- 718,121. Seamless rubber balloon. David Harris, Brooklyn, New York, assignor to Rubber Balloon Co. of America, Brooklyn.
- 718,148. Apparatus for setting rubber tires. Frederic A. Orcutt, Florence, Massachusetts.
- 718,149. Abdominal truss. Henry W. Pell, Rome, New York.
- 718,202. Fountain syringe. James Hardman, Jr., Belleville, New Jersey, assignor to Hardman Rubber Co.
- 718,244. Supporting shoe for vehicles with air tires. Leon Combrun, Clichy-on-the-Seine, France.
- 718,251. Hand stamp. Benjamin B. Hill, Philadelphia, Pennsylvania, assignor to the B. B. Hill Manufacturing Co., Philadelphia.
- 718,275. Wheel for road vehicles [with elastic balls between the steel tire rim and felly]. Glencairn S. Ogilvie, Woodbridge, England.
- 718,286. Molding and vulcanizing apparatus [for rubber stamp work and the like]. Richard H. Smith, Springfield, Massachusetts.
- 718,331. Furniture nail, [with head consisting in part of rubber]. Robert L. Ellery, Portsmouth, New Hampshire, assignor to Motley Button Manufacturing Co., Saco, Maine, and Boston.
- 718,392. Overshoe for horseshoes. Charles Scudder, Trenton, New Jersey, assignor to Horace G. Hough and George B. LeBarre, Trenton.
- 718,405. Electric cut-out. Charles Wagner, Brooklyn, New York, assignor to Edward F. Caldwell & Co., New York city.
- 718,408. Truss pad. William C. Wetmore, Buffalo, New York.
- 718,421. Hernial truss pad. Dudley Brisky, Milltown, Alabama.
- 718,439. Cellular rubber tire for vehicles. Alfred Ducasble, Asnières, France.
- 718,470. Respirator. Harold E. Jones, Racine, Wisconsin.
- 718,526. Cushion tread for heel. Henry F. Rooney, Randolph, assignor to Mellen Bray, trustee, Newton, Massachusetts.
- 718,527. Apparatus for waterproofing textile fabrics. Finch Rushworth, Bradford, England.

ISSUED JANUARY 20, 1903.

- 718,645. Elastic [solid] wheel tire. William C. Lilly, Akron, Ohio.
- 718,652. Finger guard. Duncan McMillan, Brooklyn, New York.
- 718,096. Vehicle tire. John S. Chenoballs, Plymouth, England.
- 718,850. Cycle saddle. Johannes A. Kruseman, Lisse, Netherlands.
- 718,958. Massaging apparatus. Fenton B. Turck, Chicago, Illinois.

Trade Mark.

- 39,666. Elastic belting. The C. A. Edgarton Manufacturing Co., Shirley, Massachusetts. *Essential feature*—The word "Ball Bearing." Used since September 10, 1902.

ISSUED JANUARY 27, 1903.

- 719,023. Vehicle wheel [with a series of separately inflatable tire sections]. Charles Miller, Binghamton, New York.
- 719,042. Packing [for stuffing boxes, of textile fiber and India-rubber]. Wilhelm Reinhold, Berlin-Reinickendorf, Germany.
- 719,162. Hoof pad. August C. Tappe, Cincinnati, Ohio.
- 719,179. Vehicle tire. Frank P. Brining, Westgrove, Pennsylvania.
- 719,184. Closing head or stopper for bottles. George G. Campbell, Rochester, New York.
- 719,293. Tire [of ground rubber scrap, ground tire rubber, and rubber cement]. Edward A. Arcouet, Chicago, Illinois.
- 719,329. Vehicle tire fastener. Jacques C. Haines, Chicago, Illinois, assignor of two-thirds to William E. Huber and Chester Haines, Chicago.

- 719,344. Snow excluder [consisting of an inflatable tube, around the ankle, at the top of a shoe]. Levi L. Leathers, St. Albans, Maine.
- 719,352. Finger pad. Joseph G. Marsh, Manchester, New Hampshire, assignor of one half to Henry A. Farrington, Manchester.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

[* Denotes Applications from the United States.]

APPLICATIONS—1902.

- 25,709. J. P. Cochrane, Glasgow. Manufacture of golf balls. Nov. 24.
- 25,779. R. Cornall, Pilling, Lancashire. Method of attaching rubber tires to vehicle wheels. Nov. 24.
- 25,810. A. Hopton, 124, Euston road, London. Method of fitting elastic tires to vehicle wheels. Nov. 24.
- 25,882. A. J. Boulton, 111, Hatton garden, London. Unpuncturable pneumatic tire cover. (G. F. Brown, New South Wales.) Nov. 24.
- 25,951. W. Balassa, Liverpool. Resilient tire. Nov. 25.
- 26,074. T. Moore, 4, South street, Finsbury, London. Detachable rubber heel. Nov. 26.
- 26,103. J. W. Bierley, Manchester. Pneumatic tire. Nov. 27.
- 26,134. J. Findlay, Glasgow. Punctureproof lining for pneumatic tires. Nov. 27.
- 26,152. O. R. Fischer, Barmen, Germany. Caoutchouc cement. Nov. 27.
- 26,155. W. Hillman, Southampton buildings, London. Manufacture of golf balls. Nov. 27.
- 26,159. L. von der Heide and C. von der Heide, 81, High Holborn, London. Boots with elastics. Nov. 27.
- 26,181. C. H. Gray and T. Sloper, 111, Hatton garden, London. Pneumatic tire. Nov. 27.
- 26,182. C. H. Gray and T. Sloper, 111, Hatton garden, London. Elastic tire. Nov. 27.
- 26,183. C. H. Gray and T. Sloper, 111, Hatton garden, London. Rubber threads. Nov. 27.
- 26,208. G. Tupinier and R. Personne de Sennevoy, 111, Hatton garden, London. Puncture closing device for pneumatic tires. (Date of application in France, March 7, 1902.) Nov. 28.
- 26,370. J. A. Mays, 1, Belsize terrace, London. Pneumatic tire and tire fabric. Nov. 29.
- 26,426. T. J. Cross, Cork. Wired-on rubber tire for motor cars. Dec. 1.
- *26,435. Mc I. J. D. Carter, Holborn, London. Fountain penholder. (A. Walters, United States.) Dec. 1.
- 26,440. W. S. Dunker, Ilford, Essex. Pneumatic and solid rubber tires. Dec. 1.
- 26,457. S. Butler, 33, Cannon street, London. Means of preventing side slip in rubber tires. Dec. 1.
- 26,514. M. Purser, Jr., Carlow, Ireland. Non slipping tire cover for motors and cycles. Dec. 2.
- 26,524. B. Birnbaum & Son, Limited., and H. B. Birnbaum, London. Improvement in waterproof garments. Dec. 2.
- 26,528. J. A. Mays, 1, Belsize terrace, London. Elastic tire. Dec. 2.
- 25,576. F. Symons, 46, Lincoln's Inn fields, London. Cushion for horseshoes. Dec. 2.
- 26,577. J. Classen, 18, Buckingham street, London. Reversible heel pad. Dec. 2.
- 26,648. V. P. Smith, 173, Fleet street, London. Pneumatic vehicle tire. Dec. 3.
- 26,650. M. Vivian, Chiswick, London. Rubber motor and cycle tire and method of attaching same. Dec. 3.
- 26,670. W. E. Carmont, 173, Fleet street, London. Elastic tire for vehicles. Dec. 3.
- 26,713. W. W. Becks, Finsbury park, London. Babies' rubber spoon and teething pad. Dec. 4.
- 26,730. S. T. Richardson, and R. Price, Birmingham. Pneumatic tire. Dec. 4.
- 26,745. R. Smith, Tottenham, London. Punctureproof band for use inside of pneumatic tire covers. Dec. 4.
- 26,814. E. A. Streatten, Birmingham. Pneumatic tire. Dec. 5.
- 27,117. J. Bailey, Birmingham. Elastic belt. Dec. 9.
- *27,135. H. H. Lake, Southampton buildings, London. Manufacture of dress shields. (The Canfield Rubber Co., United States.) Dec. 9.

- 27,167. W. H. Wheatley, 40, Chancery lane, London. Waterproof cement for leather, Balata, etc. (C. A. Persson, Sweden.) Dec. 9.
- 27,217. C. H. Gray, 111, Hatton garden, London. Golf ball. Dec. 10.
- 27,224. E. Cushing, Dorking, Surrey. Self-fixing solid rubber tire for motors and cycles. Dec. 10.
- 27,263. W. Holtzheuer, Finsbury, London. Tool for attaching outer covers of tires to wheel rims. Dec. 10.
- 27,202. W. Millar, Glasgow. Golf ball. Dec. 11.
- 27,311. G. S. Gulston, Derwydd, Carmarthenshire. Protection for wheel tires. Dec. 11.
- 27,358. Margaret Magnire, Finsbury, London. Dress shield and means of attaching it. Dec. 11.
- 27,362. La Société Venve A. Fayand Fils et Gendre, 53, Chancery lane, London. Manufacture of dress shields. (Date of application in France, Oct. 27, 1902.) Dec. 11.
- 27,407. J. P. Cochrane, Glasgow. Manufacture of golf balls. Dec. 12.
- 27,420. M. Purser, Jr., Carlow, Ireland. Non slipping cover for pneumatic tires. Dec. 12.
- 27,442. M. D. Rucker, 165, Fenchurch street, London. New elastic material. Dec. 12.
- 27,454. D. P. Goodwin, Birmingham. Motor tire. Dec. 12.
- 27,530. H. Loewy, Liverpool. Manufacture of molded elastic goods. Dec. 13.
- 27,713. J. E. Atkinson, Birmingham. Method of fastening rubber heels to boots. Dec. 16.
- 27,798. A. E. Schurr, 27, Holborn, London. Pneumatic tire for motors. Dec. 16.
- 27,878. P. Dick, Southampton buildings, London. Apparatus for molding golf balls. Dec. 17.
- 27,946. K. Wright, Glasgow. Detachable heel pad. Dec. 18.
- 27,951. P. McCulloch and C. McCulloch, Fort William, Invernesshire. Pneumatic tire protector. Dec. 18.
- 27,971. C. Boidot, 165, Queen Victoria street, London. Elastic tire for vehicle and cycles. Dec. 18.
- 27,980. S. Fox, 46, Lincoln's Inn fields, London. Pneumatic tire. Dec. 18.
- 27,989. E. Kempshall, Southampton buildings, London. Manufacture of golf balls. (Date of application in the United States, Dec. 18, 1901.) Dec. 18.
- 27,994. W. F. Williams, 53, Chancery lane, London. Elastic tire. Dec. 18.
- 28,017. H. Bilsborough and J. Cliff, Alderley Edge, Cheshire. Hoof pad. Dec. 19.
- 28,031. R. McDougall, Manchester. Golf ball. Dec. 19.
- 28,073. R. Wilkinson and H. Miller, 18, Holborn viaduct, London. Pneumatic vehicle tire. Dec. 19.
- 28,106. A. F. Spooner, 323, High Holborn, London. Pump for inflating tires. (La Compagnie Francaise des Nouvelles Pompes a Air, France.) Dec. 19.
- 28,107. G. A. Priestley, Strand, London. Tire for cycles and motors. Dec. 19.
- 28,243. T. H. Walker, J. A. Ellis, S. C. Teacher, and C. Benson, 47, Chancery lane, London. Leather outer cover for pneumatic tires. Dec. 22.
- 28,253. J. T. Day, 4, South street, Finsbury, London. Pneumatic tire. Dec. 22.
- 28,299. J. A. Mays, 1, Belsize terrace, London. Pneumatic tire. Dec. 23.
- 28,302. J. Weinberg, Manchester. Improved Inverness macintosh. Dec. 23.
- 28,400. A. J. Boulton, 111, Hatton garden, London. Device for inflating pneumatic tires. Dec. 23.
- 28,410. H. F. Newman, Southampton buildings, London. Waterproofing composition. Dec. 23.
- 28,447. E. Liley, Cardiff. Elastic attachment for garment suspenders. Dec. 24.
- 28,467. H. Spicer, 73, Cheapside, London. Improvements in tires and wheels for cycles and motors. Dec. 24.
- 58,522. H. J. Haddan, 18, Buckingham street, Strand, London. Undeatable air chamber for the manufacture of pneumatic tires. (J. Lacroix, France.) Dec. 24.
- 28,567. J. B. Scammell and E. A. Muskett, 56, Leadenhall street, London. Artificial Gutta-percha. Dec. 27.
- 28,568. A. A. Wade, Leeds. Improvements in pneumatic tires, handle bars, and saddles, for cycles. Dec. 27.
- 28,574. A. Paterson, Glasgow. Manufacture of golf balls. Dec. 27.
- 28,584. E. B. Killen, Belfast. Unpuncturable pneumatic tire. Dec. 27.
- 28,640. C. D. Abel, Southampton buildings, London. Manufacture of a substitute for Gutta-percha. (Siemens & Halske, Actiengesellschaft, Germany.) Dec. 27.

PATENTS GRANTED.—APPLICATIONS OF 1901.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

- 15,981. Diving dress. [Consists of rubber coated canvas with inflatable air tight chambers; or, may be modified to be stuffed with horse hair, compressed air being dispensed with.] G. V. White, Thursday Island, North Queensland, and F. Summers, North Sydney, New South Wales. Aug. 8, 1901.
- 16,021. Protected solid rubber tire for motors. A. C. Sievers, Kensington. Aug. 9, 1901.
- *16,185. Rubber calk pads for horseshoes. H. H. Lake, 45, Southampton buildings, London (O. E. Dyson, Chicago, United States.) Aug. 12, 1901.
- 16,238. Pneumatic tire with outer cover provided with tread of special fabric. N. Greening and E. Sherlock, Warrington. Aug. 13, 1901.
- 16,439. Pneumatic tire cover [the threads of which can be separated in places to allow access to the air tube.] A. Bodenheimer, 59, Hatton garden, London. Aug. 15, 1901.
- 16,462. Pneumatic vehicle tire. J. S. Chenhalls, Plymouth. Aug. 16, 1901.
- 16,496. Reservoir [fountain] pen. A. P. McCarthy, Surrey. Aug. 16, 1901.
- 16,505. Waterproofing composition. [Consisting of tars, resins, and tallow, to which India-rubber or Gutta-percha may be added.] M. Olsen, Odense, Denmark. Aug. 16, 1901.
- 16,600. Inflatable handle for motors and cycles. A. E. Rowland, Liverpool. Aug. 19, 1901.
- 16,749. Inflating valve for pneumatic tire. C. Davies, 69, Horsford road, London. Aug. 20, 1901.
- 16,809. Baby soother. E. Dickins, Leytonstone, Essex. Aug. 21, 1901.
- 16,889. Pneumatic tire [with outer cover of leather or fabric and metal to prevent slipping and puncturing]. Baron P. de Caters, Berchem, Belgium. Aug. 22, 1901.
- 16,972. Pneumatic tire cover [reinforced by closely embedded U shaped wire staples]. A. L. Cndey, Fontaine-le Bourg (Seine), France. Aug. 22, 1901.
- 17,033. Pneumatic tire cover [protected by an inner layer of hide]. W. P. Thompson, 322, High Holborn, London. (Koch & Palm, Elberfeld, Germany.) Aug. 24, 1901.
- 17,034. Means for inflating pneumatic tires by the motion of the vehicle. H. Glüer and W. Taubenheim, Neu Weissensee, Germany. Aug. 24, 1901.
- 17,099. Pneumatic cushion sole for boots. J. Hoare, 40, Sandringham road, London. Aug. 26, 1901.
- 17,239. Solid rubber vehicle tire. S. Ingham, 49, Marmion road, London. Aug. 28, 1901.
- 17,268. Inflating valve for pneumatic tires and saddles. H. Lucas, Birmingham. Aug. 28, 1901.
- 17,284. Inflatable tree for boots. F. H. Willis, Northampton. Aug. 29, 1901.
- 17,413. Label attached to golf balls during their manufacture. R. K. Gray, 106, Cannon street, London. Aug. 30, 1901.
- 17,441. Wringing machine [for use in connection with letter copying presses]. F. C. Bosen, Hamburg, Germany. Aug. 30, 1901.
- 17,463. Arched spring wire vehicle tire with rubber and canvas cover. W. T. G. Ellis and T. A. Jebb, Glasgow. Aug. 31, 1901.
- 17,505. Pneumatic tire [in sections, each of which is provided with an inflating valve]. J. J. Connolly, Cavan, Ireland. Aug. 31, 1901.
- 17,645. Horseshoe pad. H. Biles, Ealing Dean, Middlesex. Sept. 3, 1901.
- 17,686. Inflating valve for tires. H. Lucas, Birmingham, and T. Sloper, Devizes, Wilkshire. Sept. 4, 1901.
- *17,784. Elastic woven fabric [for stocking suspenders, and the like.] A. M. Ziegler, Boston, United States. Sept. 5, 1901.
- 17,947. Valve [fitted with India-rubber plug] for bottle stoppers, for aerated liquids. H. V. R. Read and A. J. Campbell, Broad Street avenue, London. Sept. 7, 1901.
- 17,954. Vehicle tire [having within metal segments fitted with helical springs]. W. E. Carmont, Kingston-on-Thames. Sept. 7, 1901.
- 18,146. Rubber vehicle tire [composed of sectional blocks held in place

by two circumferential wires; the tires may also be enclosed in a cover]. J. Eckersley, Preston, Lancashire. Sept. 11, 1901.

- *18,187. Cushion tire and rims therefor for vehicles. W. F. Ellis and E. C. Davis, Springfield, Massachusetts, United States. Sept. 12, 1901.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1903.

- 139,582 (Class 24*b*). Manufacture of varnish from Caoutchouc. Dr. Zühl and Eismann, Berlin. Jan. 21.
139,648 (Cl. 3*a*). Process for covering fabric of "Prunello" shoes with film of rubber. P. M. Matthew, Edinburgh, Scotland. Jan. 21.
139,485 (Cl. 63*e*). Air tires. J. McCanna, London, England. Jan. 21.
139,598 (Cl. 63*e*). Elastic hollow tire with solid core. W. F. Williams, London, England. Jan. 21.

PATENTS WITH MODELS FILED.

- 189,282 (Class 3*b*). Clamps for clothes rack, with rubber protecting inserts. Imhof, Bochholtz and Vogeler, Barmen. Dec. 24, 1902.
189,219 (Cl. 15*d*). Rubber type attached to wooden blocks, connected with a rubber band, in a frame, for continuous printing. O. Berckhauer, Leipsic. Dec. 24.
189,289 (Cl. 37*d*). Appliance for sealing windows, consisting of rubber tube inserted in rubber in the casing. J. Eichin, Goepfingen. Dec. 24.
189,471 (Cl. 11*e*). Elastic band with metal hooks, for binding together loose leaves, letters, or scraps. A. Schnun, Villingen, Baden. Dec. 31.
189,745 (Cl. 53*b*). Glass cover with reverted rim upon rubber packing, for closing kitchen vessels. Warmbrunn, Quilitz & Co., Berlin. Dec. 31.
189,443 (Cl. 71*a*). Malt shoes with interchangeable metal soles and metal heels provided with india-rubber calks. Mrs. Hermann Duhme, Jr., Schwerte (Württemberg). Dec. 31.
189,789 (Cl. 71*b*). Heel and sole protectors with metal plates over interchangeable rubber inlays. A. W. Mantle and J. P. Frisby, Desborough, England. Dec. 31.
190,167 (Cl. 3*a*). Garter with elastic insertion. E. C. Rubbel, Barmen. Jan. 7, 1903.
189,392 (Cl. 3*b*). Suspenders of one piece of rubber band with ring connections for button strips. A. Grueninger, Augsburg. Jan. 7.
189,985 (Cl. 30*d*). Elastic pin cushion with coating of rubber. F. Pollman, Berlin. Jan. 7.
189,814 (Cl. 47*f*). Rubber hose with lining of gelatine. Vereinigte Hanfschlauch- und Gummiwaaren-Fabriken zu Gotha, A. G., Gotha. Jan. 7.
190,012 (Cl. 47*f*). Thickly woven cotton texture with coating of Caoutchouc for steam or water packing. Dollfus and Nowak, Mulhausen, Alsace. Jan. 7.
189,972 (Cl. 70*d*). Leaf turner in form of ribbed rubber finger stall. A. Philipp and H. Werner, Dresden. Jan. 7.
189,984 (Cl. 7*o*). Tube provided with rubber casing over its mouth for applying paste or glue. E. A. Henn, Freiburg. Jan. 7.
190,095 (Cl. 71*a*). Shoe of one piece with elastic sides. I. C. Martin Söhne, Tuttlingen. Jan. 7.
190,214 (Cl. 3*b*). Adjusting band with rubber insert for cravats. R. Wirth, Ratibor. Jan. 14.
190,306 (Cl. 33*a*). Rubber casing fastened to an umbrella stick below the handle. E. Kronenberg, Ohligs. Jan. 14.
190,315 (Cl. 33*b*). Closure for ladies' wraps, of rubber cording. C. Koch, Hanau. Jan. 14.
190,627 (Cl. 30*f*). Massage implements made from waste hard rubber plates, in the shape of fingers. C. M. Nowotny, Vienna. Jan. 21.
190,767 (Cl. 44*b*). Spring top match box of hard rubber. New York-Hamburger Gummiwaaren-Compagnie, Hamburg. Jan. 21.
190,949 (Cl. 44*b*). Hard rubber match box with tubular casing. New York-Hamburger Gummiwaaren-Compagnie, Hamburg. Jan. 21.
190,837 (Cl. 47*b*). Rubber hose wound with tarred cordage vulcanized upon it, and an extra coating of rubber outside. H. Schwippe, Hoerde. Jan. 21.
190,738 (Cl. 53*b*). Rubber caps for sterilized milk bottles. A. Baumert, Berlin. Jan. 21.

APPLICATIONS.

- 8,364 (Class 63*e*). Process for closing and uniting ends of inner tubes for tires. C. E. A. Esse, Omskirk, England. Dec. 24, 1902.
17,058 (Cl. 71*b*). E. Liebman, Offenbach o/Main. Dec. 24.

19,361 (Cl. 39*a*). Manufacture of rubber suction pieces. Schlesische Gummiwaaren-Fabriken, G. Eichler, Breslau. Dec. 24.

- 16,416 (Cl. 71*a*). Elastic insert for "Jean François" shoes. C. Breuillard, Paris, France. Jan. 21, 1903.

NEW TRADE PUBLICATIONS.

APSLEY RUBBER CO. (Hudson, Massachusetts) in their 1903 illustrated catalogue and price list of "Apsley" and "Hudson" brands of rubber boots and shoes, include the features of last year's catalogue, with the addition of a heavy "Standard Oil" boot, a motorman's gaiter, and the "Adjustable Invisible" over. The styles are the same, with the addition of the "Rex" mannish toe, for women. Boot prices are lower, while the changes in shoes are in some cases lower and in others slightly advanced. [3¼"×6". 72 pages.]

GRAND RAPIDS FELT BOOT CO. (Grand Rapids, Michigan) issue for 1903 a priced and illustrated catalogue of rubber boots and shoes, and felt and knit boots. Their brands are "Grand Rapids Felt Boot Co." and "Wolverine Rubber Co." [3¼"×6". 38 pages.]

MERCHANTS' RUBBER CO. (successors to William Morse & Co., New York) issue Catalogue No. 1—1903, devoted to rubber footwear, and embracing the whole line of the American Rubber Co., with selections from the Woonsocket lines, and also felt boots, combinations, and tennis goods. [3¾"×6". 64 pages.]

UNITED STATES RUBBER CO. (New York) have sent us an "Unlisted List" of rubber footwear not contained in the catalogues of constituent companies; price list of Tennis, Yachting, and Gymnasium Shoes; list of "Rhode Island" brands; and a list of "Connecticut" brands, all in effect from January 1, 1903. Tennis goods prices are unchanged.

THE WHITMAN & BARNES MANUFACTURING CO. (Akron, Ohio) send us a new catalogue (No. 21) of their Mechanical Rubber goods, which is illustrated and gives prices, besides which it is interleaved to afford an opportunity for entering memoranda, which should prove a very feature of great convenience to the dealer having occasion to use the catalogue. The paper is yellow, of a pleasing tint, and the binding is in flexible leather. [3¼"×6". 42 pages, beside blank leaves.]

KOHLMESCHER & CO., of "The Rubber Store," No. 120 East Fourth street, Cincinnati, Ohio, send us the eighth edition of their illustrated and priced catalogue of Fine Rubber Goods, including druggists' and stationers' sundries, household and toilet specialties, toys and sporting goods. A comparison of this catalogue with the seventh edition, issued two years ago, is interesting as showing how many new specialties are added to these lines from time to time. Rubber sponges appear for the first time, together with several new designs in water bottles, and an extensive assortment of toys. The new catalogue shows progress, too, in respect to the character of the illustrations. All the leading manufacturers in these lines are represented. [6"×7¾". 152 pages.]

ALSO RECEIVED.

THE Elastic Tip Co., Boston, Massachusetts=Something New in Crutch Tips. 16 pp.

John A. Mead Manufacturing Co., No. 11 Broadway, New York=Ridgway's Patent Belt Conveyors. 24 pp.

Concord Rubber Co., Boston Massachusetts=Concord Rubber Co. and Bunker Hill Rubber Co. grades of Rubber Boots and Shoes. 68 pp.

The Springfield Elastic Thread Co., Inc., Springfield, Ohio=The "Easy Walker" Rubber Heels. 8 pp.

Combination Rubber and Belting Co., Bloomfield, New Jersey=Interlocking Rubber Tire. [Southern Rubber Tire Co.] Spp.

MANAOS HARBOR IMPROVEMENTS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Manáos Harbour Co., Limited, consisting of the Baron de Rienkewicz; Booth & Co., of Liverpool, Manáos and Pará; The Amazon Steam Navigation Co., Limited; Prüssé, Dusend-schön & Co., of Manáos; Heilbut, Symons & Co., of London and Liverpool, and one or two smaller shareholders, have a contract with the Brazilian government, by which they are bound to carry out certain improvements in the port of Manáos, construct a custom house, etc., receiving in return the freehold of all the land that may be reclaimed, and the right to levy tolls for sixty years. The Amazonas state government has leased the pier "15 de Novembro" to The Manáos Harbour Co., Limited, for £40,000 cash, thereby giving the latter a monopoly of loading and unloading steamers at Manáos. The company began work in October, 1902, and have already constructed a timber platform, resting on 2200 piles, with an area of 8750 square meters, for temporary use. All the lumber, by the way, is imported from the United States. They are also constructing, for the immediate needs of the trade, five warehouses of corrugated iron, one 110 x 20 meters and the others 45 x 20 meters.

To obviate the difficulty due to the annual rise and fall of the rio Negro—a difference of 15 meters—the company have obtained from England a pontoon landing stage, 110 x 20 meters, supported on 32 hollow steel cylinders 8½ feet in diameter. On the pontoon they mean to erect three steel towers, each 75 feet high, and three other towers ashore, to be connected by Lidgerwood double Y cableways. The pontoon towers will be equipped with swivel booms, by which cargo will be lifted directly out of the ship's hold and swung into the Lidgerwood cableway. To counteract the thrust of the back legs of the towers, the company's managing engineer, Mr. A. Lavandeyne, has devised an ingenious scheme of arrangement of the pontoons underneath. The company have their own power house and lighting plant and intend to drive all machinery by electricity.

The permanent works will include a quay wall the whole length of the city's water front, 22 meters high, and with an earth backing. This earth backing will be the reclaimed land, and will have an area of 325,000 square meters. Some 475,000 cubic meters of earth will be necessary. On this reclaimed land the company intend to erect eight warehouses, 75 x 20 meters. The company have now one building, 50 x 20 meters. The permanent pontoon landing stage, an imitation of Prince's landing stage in Liverpool, will be 330 meters long and accessible for carts and carriages.

No charge whatever will be levied on passengers and their baggage. By the terms of the Federal contract the Harbour company may levy tolls as follows:

850 reis per day per meter, on ships using the company's landing stage.
3 reis per kilogram on all cargo loaded or unloaded.
An *ad valorem* tax of 1 or 1½ per cent. on goods stored in the company's warehouses.

Mr. Lavandeyne hopes to have the provisional work finished by the end of April, and the permanent work within four years' time. The company intend also to erect a packing-box factory and rubber-cutting machinery, to facilitate the service.

At present, a steamer coming in from upriver casts anchor in midstream, and the rubber or other freight is sent to shore in barges. Arrived on the beach, it is loaded into carts and taken to the consignee's warehouse, where it is weighed, etc., and carted to the buyer's warehouse, boxed, and carted to "15 de Novembro" pier, to be loaded into barges to go aboard the ocean steamer.

Packing-boxes for rubber cost 9 milreis apiece. A kilogram of rubber pays nearly 200 reis in cartage and barge fees, 10 reis cutting and sorting fees, and another 5 or 6 reis for packing, in addition to the export tax of 25 per cent. *ad valorem*. Under the new system the rubber will be lifted out of hold and placed in the Harbour company's warehouse direct, where the cutting and boxing machinery will receive it, and from whence it will be transferred direct to the ocean steamer.

L. G.

Manáos, Brazil, January 28, 1903.

EUROPEAN RUBBER NOTES.

RUBBER RECLAIMING FACTORY IN DENMARK.

UNDER the name Dansk Afvulkaniserings Aktieselskab a company has been formed at Copenhagen, with a capital of 400,000 crowns [= \$107,200], for recovering rubber under patents granted to Albert Theilgaard, a Danish chemist, who will be the technical manager of the enterprise. A factory plant is being erected, but several months are expected to elapse before operations are begun. The board of the new company embraces the director and two professors of the Copenhagen technical high school, a bank director the director of an important chemical works, and a supreme court attorney. The Copenhagen factory is the first independent rubber reclaiming plant to be established on the continent of Europe. Mr. Theilgaard's patents in the United States and Canada are controlled and are in use by a leading rubber manufacturing company of New York.

GREAT BRITAIN.

THE St. Helen's Cable Co., Limited (Warrington), are meeting with success in their recently added rubber goods department. Lately the Admiralty gave notice of acceptance of part of their tender.

=Tires made by the Diamond Rubber Co. (Akron, Ohio) were exhibited at the first Stanley Automobile Show, Earl's court, London, in January.

=The Goodyear Tire and Rubber Co., Limited, have been registered under the British public companies acts, with A. C. Hillis managing director, and registered offices at 5, Singer street, Tabernacle street, London, E. C.

=The second annual dinner of the employés of the European dépôt of the United States Rubber Co. occurred on the evening of January 3, at the Holborn restaurant, London. Major John W. Knott, the company's European manager, spoke encouragingly of their business thus far, and hopefully of the future.

GERMANY.

THE capital of the Rheinische Gummi- und Celluloidfabrik, Actiengesellschaft, at Mannheim, will be increased from 2,000,000 to 2,500,000 marks. The company was founded in 1873 with a capital of 900,000 marks, which was increased in 1892 to 1,500,000 and in 1898 to 2,000,000 marks. A dividend of 25 per cent. was earned during the last business year.

=The Continental Caoutchouc- und Guttapercha-Compagnie (Hanover) have declared a 50 per cent. dividend for the business year ended December 31, 1902, against 45 per cent. for the preceding year. Their cycle and motor tire trade has been exceptionally good.

=The Hannoversche Gummikamm-Compagnie, A.-G. (Hanover) have declared a 20 per cent. dividend for the business year ended December 31, 1902, against 12 per cent. for the preceding year.

=The Süddeutsche Kabel-Werke Aktiengesellschaft (Mannheim) have reduced their capital from 3,000,000 to 2,400,000 marks.

HIGHER PRICES FOR RUBBER GOODS.

THE *Gummi Zeitung* commends to the German rubber trade serious consideration of a report that the British India-Rubber Manufacturers' Association, at a meeting held in Manchester on January 9, resolved that an advance of 10 per cent. should be made on prices of mechanical rubber goods, and quotes also the circular of The B. F. Goodrich Co. (Akron, Ohio), withdrawing all prices, and announcing that new prices will be subject to change without notice, owing to the unsettled condition of the rubber market. The fact that such action has been taken in foreign markets is evidence, to our contemporary, that German manufacturers must take a similar stand, and it suggests that when an advance is made, it should be a substantial one, lest it should soon prove insufficient through a still further advance in crude rubber prices. The *Gummi Zeitung* regards it as significant that an American firm has been the first in this instance, in all the world, to start the price advance, since the American trade has been regarded hitherto as disposed to the last moment to adopt such measures.

THE DEMAND FOR RUBBER SHOES.

DEALERS at Cleveland, Ohio, interviewed by the *Leader*, of that city, doubted that so many rubber shoes are worn in Buffalo, though that is a "wetter" town than Cleveland. Their estimates varied from 30 to 50 per cent. of the men, and from 50 to 90 per cent. of the women, who visited their stores, as wearers of rubbers. They were agreed, however, that "people are coming back to rubbers again; no shoe fit for a woman or man to wear is capable of keeping out the slush that Cleveland has experienced lately."

More rubber footwear is sold in Buffalo, New York, according to a shoe dealer in that city quoted by a local newspaper, than in any other city of its size in the United States. He says that during three months, beginning with the middle of December, 99 per cent. of the people who enter his store wear rubbers—not now and then, but every day. The reason is that there is snow or ice on the streets constantly during these months, and rubbers are worn as a protection against slipping as well as for keeping the feet dry. The same merchant says that this fact interferes with the sale of leather shoes to a material degree, for the reason that rubber prevents leather goods from wearing out.

A Boston merchant is reported in the *Boot and Shoe Recorder* as expressing the opinion that a good demand for rubber shoes—such as has existed this winter—is a great help to the retail trade generally. It is because so many people who enter a store to buy a pair of rubbers—something they are obliged to have—linger to make other purchases. But for the rubbers they would stay away from the stores, and anything that brings possible customers within reach of the salesman is welcomed as a means of pushing trade.

AMERICAN WOOD TIRES IN FRANCE.

THE American consul-general at Paris (Mr. John K. Gowdy, reports: "American wood tires for bicycle wheels, etc.) made of rock maple, with a core of beech, are much appreciated in France on account of their great strength, combined with lightness. The machines used by the trick performers, who jump down 10 feet onto a bicycle, are always provided with American wood tires. Two years ago these tires were imported, ready made, from the United States, but the demand

for them has become so great that it has become necessary for the Franco-American Wood Tire Co. to erect a factory, with a 180-horsepower electric engine and patent American machinery, at Méry-sur-Oise, a few miles from Paris. The wood used is, of course, still imported from America."

ADVERTISING "BOSTON" RUBBERS IN EUROPE.

OUR English contemporary concludes a report of the eighth annual International Shoe and Leather Fair, in London—at which many of the exhibits of rubber shoes, heel pads, etc., were of American origin, in the following style:

"But the hit of the Fair was the card which was given out indiscriminately to every passer-by of the stands exhibiting the Boston Rubber Shoe Co.'s goods. It was the picture of a bird clinging to the bars of a cage and looking toward an impression of the Boston Rubber Shoe Co.'s trade mark. At the foot of the card is an old-fashioned couple who are gazing with gaping mouth and up-turned eyes in astonishment at the bird who is supposed to be singing the praises of the goods that bear the above trade mark. Also at the foot of the card are the words 'Squeeze the card. Even the birds sing the praises of Boston rubbers.' On the reverse side are illustrations of the Boston Rubber Shoe Co.'s leading lines. By pressing the card the bird is made to warble, and continually throughout the evening hundreds of people were making their cards 'sing.' It was a decided novelty, and once again the Boston Rubber Shoe Co. have come out 'on top' in the matter of attractive advertising.

SOME WANTS OF THE RUBBER TRADE.

[278] A WESTERN manufacturer desires to know if there are in use at present any of the following brands on red sheet packing: Dragon, Robin, Meteor, Comet, Jupiter. Or for rubber lined cotton hose, as follows: Marine, Mascot, Sphinx, Alert, Volunteer, Gulf Stream, Marquette, La Salle, Joliet.

[279] "Will you kindly give us the name and address of some of the European manufacturers of Balata belting?"

[280] From a Western town: "I should like some information regarding the cost of a small plant for reclaiming rubber from old boots and shoes and other forms of scrap."

[281] From an Eastern town: "Can you give us the names of firms making magnet machines for reclaiming plants?"

[282] From Holland: "We have an enquiry from our agents in the Dutch East Indies, for mechanical apparatus for the manufacture of Gutta-percha from leaves. Can you advise us of the makers of such machines?"

[283] From a jobbing house: "Could you inform us who make a rubber dental cuspidor?"

[284] From another jobbing house: "Can you advise us where we can buy rubber ends for cocoa matting?"

[285] "Where can we purchase rubber ventilators, such as are used in air mattresses, cushions, pillows, etc.?"

THE "Diary and Year Book for 1903," issued by the publishers of the London *India-Rubber Journal*, contains the same features as in former years, besides being more complete in the various departments. In addition to statistical and other reference matter designed for people in the rubber trade, including a directory of trade marks in the British rubber industry, the volume includes blank pages for counting house or factory memoranda for one year. [Maclaren & Sons, 37, Shoe lane, London, E. C.]

THE TEXTILE GOODS MARKET.

THE prediction in these columns last month of a rising raw cotton market appears to have been an accurate forecast. The upward tendency to prices on cotton options and spot offerings, so pronounced during the latter part of January, has continued unabated, the spot cotton in the local market is worth fully a cent a pound more than it was four weeks ago. Manufacturers are endeavoring to cipher out what the market is going to do next, to do which they are compelled to consider the commercial crop during the past three years. Last year it was 10,700,000 bales; the year before 10,400,000 bales, and in 1900 it was 9,435,000 bales. In each of these years the mills consumed more than the crops raised, the consumption during one of these years being at least 1,000,000 bales in excess of the crop. Stocks everywhere in spinners' hands, in foreign ports and here in America, were thus of necessity reduced to the lowest ebb. This was the situation at the opening of the present season. Professional crop estimators having held out hope for 12,000,000 bales, the actual results caused some uneasiness. Spinners were among the most credulous, and they bought from hand to mouth until such time as the receipts left no question as to the real situation. But the spindles soon reached a period where cotton was needed instead of explanations, and spinners awoke to the fact that they had been caught without cotton and with large orders in hand for goods. Then sprang a demand for cotton, and it has been in evidence since, which is the reason for the recent advance in the cost of the staple. Thirteen years ago a condition identical with the present one existed.

One of the curious features of the present situation is that cotton people, with the exception of a few instances, have made little money on the rise. To them 10 cents looked too high, and they were tempted to go short even at 9 cents, much to their subsequent regret and loss. On the other hand, the Stock Exchange following has realized heavy profits. Knowing little and caring less for statistics, they have followed the advice of their brokers, and bought recklessly at prices that would frighten even a wise cotton expert. But when this campaign is over it will be found that the impelling force has been, not the size of the crop, over which the cotton trade is now wrangling, but the phenomenal consumption of cotton goods. The limit has not yet been reached, and still higher prices will be seen. The following figures show prices of spot cotton on each Thursday for February:

	New York.	New Orleans.	Liverpool.
February 5.....	9 05c.	8 ¹ / ₄ c.	4 82d
February 12.....	9 50c.	9 ¹ / ₄ c.	5d
February 19.....	9 80c.	9 ¹ / ₂ c.	5.26d
February 26.....	10 05c.	9 ¹ / ₆ c.	5.30d

Rubber manufacturers in all parts of the United States have been consuming cotton ducks with greater rapidity than the most optimistic of them had anticipated when they placed orders for their supplies last fall. Requisitions have been pouring in at a rate that has made it necessary for the textile mills to keep their looms in full operation at full time. The rubber trade has reason, too, to congratulate itself upon having made a long term contract for cloth at prices much lower than it would be possible for them to do to-day, with raw cotton fully 1 ¹/₂ cents above the range six months ago. It is possible that some rubber mills have not contracted for sufficient stocks to carry them through the year, but it is understood that sellers, in such cases, will accept reorders on the same basis, as the cotton out of which the goods are to be made was bought before the advance, although it is optional with the textile manufacturer as to what course he will pursue in such cases. Belt-

ing manufacturers also are going ahead with increased capacity to meet a fast growing demand, coming largely from the West. Rubber boot and shoe manufacturers have been more keenly impressed than ever before of the advisability of adopting the plan pursued by consumers of duck, that is, to order goods by the year.

It will be seen by the subjoined figures that prices of sheetings have advanced about half a cent per yard since the previous issue of THE INDIA RUBBER WORLD:

Forty-inch, 2.50.....	6 ³ / ₄ c.
Forty inch, 2.70.....	6 ¹ / ₂ c.
Forty-inch, 2.85.....	6 ¹ / ₈ c.
Forty inch, 3.60.....	5 ¹ / ₈ c.
Thirty-six inch, 3-yard.....	5 ³ / ₈ c.

The above prices are current quotations, but by the time they reach the eye of the reader it is possible that they will have advanced another fraction, for the market is extremely active and sellers are compelled to hold prices firmly at the top notch. Southern mills are in a well sold condition, and it would be difficult to get satisfactory deliveries on almost any line of sheetings in general use by the rubber trade.

No better evidence is needed that the rubber manufacturers of the Dominion are constantly on the *qui vive* than to call attention to the fact that they are in a very satisfactory position, no matter what the Canadian government may decide to do in reference to tariff matters at the coming meeting of parliament. In anticipation that the cotton duck manufacturers in Canada had reached a point when they would be asking for protection against American goods invasion, these rubber manufacturers have in their possession all the cotton ducks they will require for the present year's consumption. Parliament will meet in Ottawa on March 4, and it is understood that one of the first measures taken up will be the tariff. Of course the rubber manufacturers of the Dominion will oppose the matter, because it will militate against their interest. Having established a 25 per cent. tariff on American cotton ducks, the manufacturers of Canada would at once put the price of their ducks at least 15 per cent. above the present cost of the American product, and the rubber men would be compelled to pay it, as it would be the best they could do under the tariff law. Measures are being taken here, however, that may circumvent whatever may be the outcome of the new tariff movement on the other side of the Niagara.

BALATA INDUSTRY OF SURINAM.

THE discovery of the Balata forests by the expedition under the leadership of Major Bakhuis [reports the German consul at Paramaribo], in the upper Coppename district, ought to assist the development of the Balata industry, which is just beginning to show new signs of life, to a great extent. Experts report that the exploitation is profitable to such a degree to warrant the building of a railroad through the district. The export of Balata from Surinam during the first half of the year amounted to 85,000 kilograms. Owing to excessive rains during this year, tappings to any extent could not be made, as the Balata would be too watery. A deplorable feature has been noted in the Balata exploitation, which is being investigated. It seems that the gatherers in order to increase the quantity, have added inferior saps of rubber-like trees; a practice which materially decreases the value of the product.

THE Österreichisch-Amerikanische Gummifabrik-Aktiengesellschaft (Vienna) have resolved to issue a 4 ¹/₂ per cent. loan of 1,500,000 kronen [= \$304,500], to be financed by the Wiener Bankverein.

NEWS OF THE AMERICAN RUBBER TRADE.

PEOPLE'S HARD RUBBER CO. (AKRON, OHIO.)

AT a special meeting of shareholders of the People's Hard Rubber Co., on February 2, the action of the directors in causing an assignment to be made [reported in the last INDIA RUBBER WORLD] was ratified by the holders of a majority of the stock. Later, on the same day, a petition was filed in the common pleas court, asking that this ratification be set aside, and praying for damages in the sum of \$200,000. There are several plaintiffs, residing in Akron and elsewhere, and representing about 125 shares of capital. The defendants are the present directors of the People's company. On February 2, also, exceptions to the inventory filed in the probate court following the assignment, were filed by Musser & Kohler, attorneys for the minority shareholders. It was set forth that the real estate was appraised at too low a rate, and that no value was placed upon trade marks or secret processes, the shortage in the aggregate valuation being claimed to be \$130,649.77. It was asked that the appraisal be set aside. The hearing of the exceptions was begun before Judge Pardee on February 23, with the expectation that several days would be consumed. Meanwhile the People's plant remains idle.

REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

AT the annual meeting of the directors on February 9, President Henry K. Wick declined reelection on account of the pressure of other business matters. The officers chosen were:

President—WARNER ARMS.

Vice President—C. H. BOOTH.

Secretary and Treasurer—JOHN TOD.

Superintendent and General Manager—JOHN S. MCCLURG.

The board includes—besides Messrs. Arms, Booth, and Tod—H. K. Wick, John C. Wick, George Tod, H. M. Robinson, and A. E. Adams. A favorable condition of business is reported, there being enough orders in hand to keep the factory well employed.

SWEET TIRE AND RUBBER CO. (BATAVIA, N. Y.)

AT a stockholders meeting on February 13 it was voted to increase the capital from \$80,000 to \$90,000, and the additional issue was subscribed for by those present. It was reported at that time that the factory would probably be ready for operation by the end of the month.

NATIONAL INDIA RUBBER CO.

THE third annual banquet by the company to their employes occurred at the De Wolf Inn (Bristol, Rhode Island), on the evening of February 14. The interior of the inn had been specially decorated. There were about 70 guests. The menu was printed upon miniature rubber coats, made at the National company's factory. Manager H. H. Shepard was toastmaster. Treasurer W. De F. Brown, giving some account of the business of the company, said that in 1900 the payroll amounted to \$295,000, and in 1902 to \$355,000—an increase of \$60,000.== The factory was visited on February 16 by two official representatives of the state of Amazonas (Brazil)—Senhor Porfirio Nogueira, secretary of state, and Senhor Enéas Martins, late inspector of the treasury—who are in the United States on a financial mission for the government at Manaus. After the factory had been inspected, the Brazilians were entertained at dinner at the home of President Samuel P. Colt, together with several other officers of the National company and the United States Rubber Co.==It is stated that the National India Rub-

ber Co. began the month of February with all departments of the factory busy and in need of more help. There were 1385 names on the payroll—only 18 less than the greatest number in the long history of the factory. The National company were reported lately to be making 625 cases of tennis goods daily. The export of these goods is now becoming important.

MISHAWAKA WOOLEN MANUFACTURING CO.

THE sole agency for New England for the "Ball Band" rubber shoes manufactured by the Mishawaka Woolen Manufacturing Co. (Mishawaka, Indiana) is now held by Dunham Brothers, shoe wholesalers and retailers, of Brattleboro, Vermont. This firm hold an annual "school of instruction" for their salesmen, which occurred this year on January 29 and 30. It was attended for the fourth successive year by President M. V. Beiger, of the Mishawaka company. On the evening of January 30 was given the annual banquet tendered by the Messrs. Dunham to all their employes. In an address to the guests Mr. Beiger gave the following figures illustrating the growth of the Mishawaka company—manufacturers of felt boots, and, since 1899, of rubber shoes, for use in "Combination" goods. Beginning in 1889 the sales were \$65,000; in 1890, \$269,000; 1891, \$270,000; 1892, \$317,000; 1893, \$385,000; 1894, \$390,000; 1895, \$514,000; 1896, \$605,000; 1897, \$709,000; 1898, \$1,382,000; 1899, 1,907,000; 1900, \$2,828,000; 1901, \$3,027,000; 1902, \$4,048,000.

STANDARD UNDERGROUND CABLE CO.

THE annual meeting was held at Pittsburgh on January 29. The earnings of last year amounted to \$3,984,531, an increase of \$664,000 over the year before, and the greatest in the history of the company. The surplus, \$265,564 at the beginning of 1901, has been swelled to \$760,350. Meanwhile the company have made large additions to their plants, part of which were paid for by a new stock issue. During 1902 the company paid four quarterly dividends of 2 per cent. and one extra dividend of 2 per cent. The consumption during the year included 8,200,000 pounds of copper wire and 18,126,000 pounds of lead. The new copper rod and wire mills at Perth Amboy, New Jersey—300 × 180 feet, a portion being three stories and basement in height—will hereafter produce from copper bars the wire used by the company in the manufacture of cables and insulated wire, and some will go on the market. The rubber insulation work of the company is now done at Perth Amboy.

ELECTRICAL CONSOLIDATION.

ON February 12 was announced the transfer of the Stanley Electric Manufacturing Co. (Pittsfield, Massachusetts) to a syndicate of capitalists affiliated with the Several Electric Co. The latter company, incorporated in 1892, was the result of consolidating important electrical manufacturing interests, on what was then a gigantic scale of capitalization. Later the capital was greatly reduced, through writing off large patent accounts, etc., after which it was again increased. The outstanding capital is now \$41,880,153, with bonds amounting to \$2,148,490. The company manufacture a wide variety of electrical equipment, at Schenectady, New York, and Lynn, Massachusetts, and have at the former place an extensive plant for insulated wire and cables. Their \$100 shares, listed on the New York Stock Exchange, have sold since January 1, 1903, at from 183 to 202½. The Stanley company, now absorbed, have made a specialty of heavy long distance electric railway systems, em-

playing electric locomotives. The capital was \$3,000,000, a proposition to increase which to \$10,000,000 was under consideration when the consolidation of the Several Electric Co. took place. It is expected, however, that at least \$1,000,000 will be expended by the new controllers in enlarging the Pittsfield plant, which employs 1500 hands.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED STATES Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jan. 24	1,070	17 1/2	17	210	56	55 1/2
Week ending Jan. 31	510	17	16 3/4	200	52 1/2	52
Week ending Feb. 7	4,770	18 1/2	17	1,627	56 1/2	52 3/8
Week ending Feb. 14	9,210	19 1/8	18	3,775	58	54
Week ending Feb. 20	4,330	18 3/8	17 1/4	3,210	55 3/4	54

RUBBER Goods Manufacturing Co.:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jan. 24	13,180	25 1/2	23 3/4	1,745	79 7/8	78
Week ending Jan. 31	4,876	25 3/8	24 1/4	1,050	79 3/4	79
Week ending Feb. 7	11,649	26 1/2	25	3,455	84 1/4	79 1/2
Week ending Feb. 14	15,715	28 1/2	26 1/2	1,919	84	82 3/8
Week ending Feb. 20	17,650	30	28	1,730	84 1/2	83 1/2

IMPROVEMENTS IN FIRE HOSE MANUFACTURE.

DURING the past year the Eureka Fire Hose Co. (New York) have made some important improvements in the special hose weaving machinery employed in making their "Eureka," "Paragon," "Red Cross," "U. S. Underwriter," "New Peerless" jacket, "New Surprise" jacket, and "Monitor" jacket brands of rubber lined cotton fire hose, which have been patented in the United States and other countries, and doubtless will make these high grade goods still more popular with the buying public. With the new looms an extra ply of fine Sea Island yarn is ingeniously woven in the inner surface of the hose, filling the spaces between the strands and thus entirely covering the ribbed or corrugated surface which was unavoidable in the old method of weaving the fabric. This virtually adds another ply to the hose and gives, at least, 25 per cent. additional strength without materially adding to the weight. The "Red Cross" brand, hitherto a single hose, thus practically becomes a double hose, and the "Paragon" and other brands of jacket hose, previously a double hose, become triple, and the "Eureka" is changed from a triple to a quadruple hose. The Eureka company have also put in new special machinery for attaching couplings to fire hose by hydraulic power, by which two operators can attach 250 or more couplings in a day. Gages are attached to the machine so that each coupling receives an equal amount of pressure throughout the process. The hose, after being coupled, is passed to testing tables, built from designs by Vice President B. L. Stowe, which are provided with an attachment for connecting any thread, or, if the hose is ordered without couplings, it is tested by attaching special connections.

CONDITIONS IN THE CARRIAGE TRADE.

THE New York carriage trade journal, *The Hub*, makes a feature of letters from dealers on the business situation. In introducing this feature in the February issue the editor says: "The reports this month continue favorable as a whole, and the general feeling is that the coming season's trade will be fair, but not so hopeful as it has been." The "not so hopeful" expression must refer to the fact that 1902 showed a greater rate of improvement over the past than can be looked for to continue always. The February *Hub* contains letters from 77

dealers, in 16 states, from the Atlantic to the Pacific, and from Michigan in the north to Arkansas in the south. Of these, 40 report a decidedly better trade in 1902 than in 1901; 13 report trade equally good; 19 report smaller sales; and 5 offer no basis for comparison. But 59 letters report good prospects for the present year—many are enthusiastic on this point—and very few of the remainder write that trade prospects are poor.

THE NEW HODGMAN STORE.

THE oldest house in the rubber trade in New York—and the oldest rubber firm in continuous existence in this country—not only has the newest store in this branch in the city, but about the most attractive rubber store that has yet been opened anywhere. Reference is made here to the new headquarters of the Hodgman Rubber Co., at Nos. 806-808 Broadway, opposite Eleventh street. In point of space occupied the store marks an advance over that formerly occupied by the company. The main floor, 50 X 230 feet, extends from Broadway to Fourth avenue, and the basement and subbasement have the same dimensions. The store is exceptionally well lighted—having the advantage of the wide frontage on both the thoroughfares named; a row of windows half the length of the store, opening on the yard of Grace church; and windows on the opposite side of the room, lighted by a spacious court in the center of the block. Every advantage thus is afforded for the displaying of goods, the business offices are well lighted, and a generally cheerful effect is produced. The character of the Hodgman goods is favorable to attractive displays, for which the new store furnishes a desirable setting. The offices of the Messrs. Hodgman and the bookkeeping departments have been newly and tastefully furnished. The basement, devoted to the shipping department and to the storage of goods, is lighted through the sidewalks at the front and the rear, and through windows opening upon the churchyard. In the subbasement are the steam plant, storage room for packing cases, and the like.

BICYCLE TRUST REORGANIZATION.

THE reorganization committee of the American Bicycle Co., William A. Read, chairman, has given notice that the third and final instalment of \$3 a share has been called for payment by the depositors of preferred and common stock, required by the plan and agreement of the committee, the payment to be made to the Central Trust Co. (New York) on or before March 2.

THE CANADIAN DUTY ON RUBBER SHOES.

SOME Canadian newspapers having reported that the desirability of a higher import duty on rubber boots and shoes was one of the subjects discussed at the recent meeting of rubber manufacturers in Montreal, *The Canadian Shoe and Leather Journal* (Toronto) says: "As a matter of fact no mention whatever was made of the tariff, and there was, of course, no decision arrived at to ask for further protection from the government. The manufacturers refused to give these papers any information whatever regarding the question brought up for discussion, and the imagination of the reporter was responsible solely for the erroneous statement made." It is not impossible that, if a member of the association authorized to speak had assured the reporter that the tariff question was not discussed at the meeting, his imagination might not have been given play, and Mr. N. Tetrault, Jr., who represented the shoe manufacturing trade at the rubber men's banquet, might not have "expressed a hope that the rubber manufacturers had discussed the matter of tariff, and [he] thought that the two lines of business should aid each other in having the tariff on footwear raised."—At a meeting of the boot and shoe section of the Retail Merchants' Association of Toronto, according to the *Star* of that city, the question under discussion was the request

of the rubber manufacturers to the government, asking for an increase of duty on rubbers. A resolution was carried asking that the government take no action until it had been waited on by a deputation from the association. It was asserted at the meeting that rubber shoe manufacturers allow a special discount to department stores, which gives the latter an advantage over other retailers, and that if one price was charged to all, sufficient profits could be made all around to render any increase in duty unnecessary.

CANADIAN WATERPROOF CLOTHING TRADE.

WRITING on the situation of the waterproof clothing industry in Canada and the desire expressed for a higher duty on imported goods, in *The Clothier and Haberdasher*, E. L. Rosenthal, manager of The Strathcona Rubber Co. (Montreal), estimates that the proofed cloth imported, valued at \$70,993 for the last fiscal year, amounted to about 170,000 yards. This, he figures, would allow for 45,000 coats. At an average of \$3.50, these should sell for \$157,500—the total probable production of rubber waterproofed coats made in Canada by eight manufacturers. Against these figures, he contrasts the imports of such clothing: \$177,362 in value from Great Britain and \$59,948 from the United States, or a total of \$237,310. With a higher import duty, he believes that the home industry would become able to supply the whole demand, and he pledges his firm not to raise the price of their coats, even if the duty should be advanced to 100 per cent. Of the imports of waterproofed cloth, the United States supplied \$57,765 worth and Great Britain \$13,228.

NEW INCORPORATIONS.

THE Siemon Hard Rubber Co. (Bridgeport), January 24, under Connecticut laws; capital, \$5000. Incorporators: Carl F. Siemon, L. F. Eaton, John Taylor, Herbert L. Smith, and Waldo C. Bryant—all of Bridgeport, Connecticut.

=The Lilly Rubber Manufacturing Co. (Barberton, Ohio), February 13, under Ohio laws; capital, \$10,000. Further details are given on another page, in the news from Akron.

TRADE NEWS NOTES.

EVERY employé of the New York Rubber Co.'s factory at Matteawan, N. Y., on the last weekly pay day for January, received an envelope containing twice the usual sum, with the best wishes of the company, and as a token that the business year just closed had been a prosperous one.

=The Hartford Rubber Works Co. (Hartford, Connecticut) have located their Pacific Coast branch at No. 641 Mission street, San Francisco, to cover all their trade west of Utah. A new equipment for putting on solid tires has been installed and three traveling men are employed. A good order is reported for jinriksha tires, for Japan.

=The Victor Rubber Tire Co. (Springfield, Ohio) have consolidated their Eastern agencies with their branch at No. 1769 Broadway, New York, in charge of James S. Webb, manager, assisted by H. C. Comstock as traveling man.

=John J. Joyce, Jr., has resigned as general manager of the International Automobile and Vehicle Tire Co. (Milltown, New Jersey), to date from March 1.

=T. E. Eustis, for the past ten years treasurer of the Norfolk Rubber Co. (Boston) has sold his interest and retired from the company, being succeeded by William H. Wilder, Jr. Mr. Eustis finds it necessary to devote his entire time to the interests of the Pneumatic Elevator Safety Co., No. 53 State street, Boston, a business established by him about a year ago.

=William F. Stevens, formerly selling agent of the Byfield Rubber Co., is now an assistant to Charles A. Coe, selling agent for the "Wales-Goodyear" brands of footwear at the Boston office of the United States Rubber Co.

=The factory employés of The I. B. Kleinert Rubber Co., at College Point, Long Island, having organized the I. B. Kleinert Employés Benevolent Association, the president of the company, Mr. Kleinert, recently wrote a letter to be read at one of their meetings, commending the objects of the association, and enclosing a contribution of \$250 to their funds.

=The Hodgman Rubber Co. (New York) issue a circular illustrating some extremely new styles in the "Alexombric" line of rain coats, which goods, by the way, are coming into increasing demand.

=The Whitman & Barnes Manufacturing Co., whose business embraces a rubber factory at Akron, have filed a certificate with the secretary of state of Ohio, reducing the capital stock of the corporation from \$5,000,000 to \$2,362,500. On account of the corporation tax, the figure has been reduced to the amount of stock actually issued.

=It is mentioned as a singular fact that no store in Woonsocket, Rhode Island, carries a line of the rubber boots and shoes manufactured there. The employés of the Woonsocket Rubber Co. are allowed to buy such articles for their own use at the factory, but otherwise Woonsocketers wear rubber footwear made elsewhere.

=The American Insulated Wire and Cable Co. (Chicago) closed their first year with a banquet to their employés on the evening of January 10. They are stated to have a capacity of 500,000 pounds of weatherproof wire per month.

=W. B. Smith Whaley & Co., mechanical and electrical engineers and mill architects (Boston, Mass., and Columbia, S. C.), announce that Mr. John O. De Wolf has become associated with them as a partner.

=At the annual meeting of the Warren Rubber Co., a jobbing house at Warren, Ohio, on January 26, the board was re-elected. A dividend of 6 per cent. was paid and an addition made to the surplus.

=The firm name The National Rubber Shoe Co. has been adopted by what has been known hitherto as The National Shoe Co., of Montreal—composed of A. S. Lavallee and J. I. Chouinard. They handle rubber footwear exclusively.

=Mr. J. E. Spencer, who has been in the employ of the Mechanical Rubber Co., of Cleveland, in various capacities, for a number of years, has resigned to accept a position in the purchasing department of the National Cash Register Co. (Dayton, Ohio).

=The Monarch Rubber Co. (St. Louis) will not sell their "Sunset" and "Prairie" rubbers direct to the retail trade hereafter, but only through their distributing agents, the Giesecke D'Oench-Hays Shoe Co., of St. Louis. The Monarch company still solicit orders for their "Buckskin" boots.

=Selz-Schwab & Co., Chicago jobbers, are offering a line of rubber footwear manufactured for them under their own brands—"Royal Blue" in first quality and "Western Rubber Co." in second quality goods. Exclusive sale of these brands is offered to retailers.

=The Dunlop Tire Co., Limited (Toronto, Ontario), advise THE INDIA RUBBER WORLD that they have made arrangements to supply their tires to fit the new Standard steel channel described and illustrated in our issue of September 1, 1902 (page 377).

=The Montreal Waterproof Clothing Co.—H. Wener, manager—the oldest established house in the waterproof clothing business in Canada, have decided to open a branch at Winnipeg, for the more prompt delivery of goods to their customers in the West.

=The Republic Rubber Co. (Youngstown, Ohio) are reported to be contemplating an increase of capital stock.

=The Gorham Rubber Co. (San Francisco and Seattle) will be represented at the industrial exhibition which opens on March 1 at Osaka, Japan with lines of rubber goods from leading manufacturers in the United States.

=Israel Suchman has withdrawn from the copartnership hitherto between him and Benedict Reis, manufacturers of mackintoshes, as the Neptune Rubber Co., No. 295 Grand street, New York. The business is continued under the same name, at the same address, by Benedict Reis, who assumes the liabilities and assets of the copartnership.

=A jobber on the Pacific coast advises THE INDIA RUBBER WORLD that his territory has been flooded with circulars from jobbing houses further east, announcing a "War in Rubbers" and advising retailers not to place orders without waiting to see how cheaply they can buy from the authors of the circulars. He says that the jobbers in question evidently are endeavoring to take advantage of the fact that jobbers are not restricted this year as to prices, to gain an opening in territory not theirs by right, and he fears demoralization of prices.

=The Woodruff Automobile Co. (Akron) are building especially for the Goodyear Tire and Rubber Co. a touring car on which the latter will make practical tests of their different makes of tires. An automobile for this purpose is also owned by The B. F. Goodrich Co.

=The official report on a test of Milnes-Daimler mail vans between Liverpool and Manchester—fitted with Goodyear solid tires—says: "The Goodyear tires have been a revelation. They have worn splendidly; in fact, the molding on the treads are not yet worn down." The mileage made by each van in the test was 800.

PERSONAL MENTION.

O. C. BARBER, largely interested in the Diamond Rubber Co., was reelected president of the Diamond Match Co., at their annual meeting in Chicago, on February 4. He has held that position since the organization of the company, nearly twenty years ago.

=Dr. W. M. Habirshaw, of the India-rubber and Gutta-percha Insulating Co. (New York), has gone on a trip to Cuba.

=Colonel Sever, of Paris, a former member of the French chamber of deputies, was in New York early in the month, *en route* for La Paz, Brazil, being a member of the "Mission topographique Hatchett," interested in the development of certain railway concessions through the rubber and mining regions.

=Mr. R. A. Loewenthal, vice president of the U. S. Rubber Reclaiming Works (New York), sailed early in the past month for Europe, to be absent for several weeks on a vacation from business.

OBITUARY.

HENRY HERING died at his home in Hasbrouck Heights, New Jersey, on February 24, of pneumonia, at the age of fifty-six. Mr. Hering was born in Hamburg, Germany, and, coming to the United States when a young man, became interested in the rubber industry. He started at the Lambertville (New Jersey) works of the Goodyear Rubber Co. He was the first superintendent of what is now the Hartford Rubber Works, which position he held for eight years. He was next engaged in an important capacity at the factory of the Boston Woven Hose and Rubber Co. During the last two years he had resided at Hasbrouck Heights with his son, Henry F. Hering, who is connected with the New York Rubber Co. Mr. Hering was always very popular with his associates, on account of his sterling qualities and his willingness to lend a helping hand. He belonged to the Masonic Fraternity, the Odd Fellows, and Independent Order of Red Men, and was a member of the

Grand Army of the Republic. Mr. Hering is survived by a widow and the son mentioned above.

JOSEPH DREW THOMAS, who was superintendent of the factory of the Pará Rubber Shoe Co. (South Framingham, Massachusetts), from 1886 to 1892, died at his residence in Liverpool, England, on February 1, in his sixty-seventh year. He was a native of Barnstable, England; sometime assistant superintendent of the Liverpool Rubber Co.; and later filled an important position in the works of the Russian-American India-Rubber Co., in St. Petersburg, after which he took charge of the factory at South Framingham. In 1893 he returned to England. He is survived by a widow and two daughters. He left property in the United States and in England, and by his will Walter Adams, a lawyer of Framingham, is made an executor.

CHARLES FALES PARKER died February 20, at Somerville, Massachusetts, in his seventy-eighth year. He was well known to the rubber shoe trade through his invention of aluminum lasts, and was the proprietor of the Metal Last and Tree Co. (Boston). He is survived by a widow and two daughters. Another daughter was the wife of Major Harry P. Ballard, treasurer of the Boston Rubber Shoe Co. Mr. Parker was an uncle of Homer Sawyer, selling agent of the United States Rubber Co.

THE RUBBER SCRAP MARKET.

A SLIGHT advance is apparent in prices of old rubber boots and shoes—say $\frac{1}{8}$ cent per pound over the quotations of one month ago. There is a report that the Russian government has decreed an export duty on old rubber shoes of $1\frac{1}{4}$ rubles [=76.4 cents] per pood [=36 pounds], which would be at the rate of $2\frac{1}{8}$ cents per pound. The date when this regulation will take effect has not been announced, which lends a new element of uncertainty to the market for foreign scrap. The importance of the projected measure will be seen when it is considered that the great bulk of the rubber scrap imported by the United States is of Russian origin, even if purchased elsewhere, and it is reasonable to suppose that the amount of the Russian levy will have to be paid by the buyer. Hitherto the importation of European scrap, at the prices which the collectors have been willing to accept, has exerted an important influence in keeping down the prices of American scrap. If, now, the Russian product is to be materially increased in cost, the effect must naturally be felt in time in higher prices for domestic stock.

New York quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic.....	7 $\frac{3}{4}$ @ 7 $\frac{7}{8}$
Do —Foreign.....	6 $\frac{3}{4}$ @ 6 $\frac{7}{8}$
Pneumatic Bicycle Tires.....	5 $\frac{1}{2}$
Solid Rubber Wagon and Carriage Tires.....	6 $\frac{1}{2}$
White Trimmed Rubber.....	9 $\frac{5}{8}$ @ 9 $\frac{7}{8}$
Heavy Black Rubber.....	4 $\frac{1}{4}$
Air Brake Hose.....	2 $\frac{7}{8}$ @ 3
Fire and Large Hose.....	2 $\frac{1}{2}$
Garden Hose.....	1 $\frac{1}{2}$
Matting.....	1

THE government of Peru are publishing a series of "Immigrants' Guides" to various regions of that country, with a view to the encouragement of colonization. Of one of these, devoted to the region of the river Pichis, and reached by the Central railway via the port of Callao, an English translation has been received. It is interesting to note that among the special inducements offered to immigrants is the opportunity for gathering rubber, and the government regulations for the leasing of rubber lands are given in full.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The tire situation is claiming unceasing, vigilant, attention these days, and for more than one reason. Principally because the demand is great and every machine is busy—some of them 24 hours a day, six days in the week—but also because the state of the trade is one which must be watched keenly, are the manufacturers keeping very wideawake. There is a great demand for automobile tires. Makers of solid tires say they are having all they can do. Makers of pneumatic tires are busy as can be in these departments. Of the pneumatics, the detachable tire seems to be taking the lead this season, although for other makes there are plenty of orders. Prices on automobile tires are holding up to a fair level, but the manufacturers are experiencing the same difficulty that bothered them in the bicycle tire industry—an inquiry, approaching a demand, for a cheaper tire than can be made with any sense of satisfaction as to its being serviceable.

Far more especially is this true, however, of the vehicle or carriage tire trade. The outcry for cheap tires which last year became insistent is resulting, it is claimed, in the making and marketing of tires without regard to their wearing qualities, by some manufacturers, at least. Others declare they are holding up prices and quality and that their course will be the more profitable in the long run. Still others take the cue that a man who buys tires at 35 cents a pound gets his money's worth, though he who buys at 50 cents a pound gets better value for his expenditure—in short, makes a very much wiser investment—wiser for all concerned.

There is no great division of opinion among manufacturers as to the price at which a really serviceable tire can be marketed. Quite invariably the figures they name are not higher than 50 cents nor lower than 40 cents per pound. However, it is recalled that in the early days of the solid rubber vehicle tire an article far inferior to that which sells at 50 cents to-day was sold at a much higher figure. And there was no greater profit in the tires, proportionately, either. It is conceded that the time may come when a first class tire can be sold as low as 35 cents the pound or even lower, far cheaper than the prices which must be had for such tires now. The manufacturers are doing all within their power to hasten the day, but meanwhile there is that "psychological point" at which price ends and quality begins which must be ever taken into consideration by the conscientious maker, and which the consumers and the carriage men seem as yet unable to arrive at.

The bicycle tire trade is claiming its own share of attention. While there continues to be a large call for cheap tires, the bulk of this year's business will be not so much in that line as was true of last season. While some of the first class tires are being sold, too, the majority of orders are for the medium grades—quality which runs from \$2.50 to \$3.50 per pair, manufacturers' prices, or thereabout. One large concern expects to make more bicycle tires this season than for three years past. Another will make about the same number as last year which, on the whole, was the best season since 1899-1900, or possibly the year before that.

There is a growing demand for the heavier tires for motor bicycles. These machines are now being put out at prices within reach of many people, \$125 and up, and indications point to a good sale the coming season. Tires for these motor bicycles are of necessity of good quality, and a sufficient demand will open up a first class field—one in which quality is bound to be paramount to price. However, if this demand does not

develop to a considerable extent for another year or two, the majority of manufacturers will not worry about it, as they have plenty of work for the present, without this.

* * *

THE season of quiet in the crude rubber market will, if it continues, result in the present prices of rubber products remaining quite generally stationary for some time; that is, there will not be another advance of prices in April, the possibility, or even likelihood, of which was referred to in these columns last month. If quotations on raw material do not change materially, manufacturers say, the present schedules of selling prices will be found the basis of values for the entire year, perhaps. The remark has been made that it is owing more to increases in expenses in other directions than to the rise in crude rubber that manufacturers have advanced their price lists. This, it is declared very generally by them, is incorrect. Except for the rise in crude rubber, their selling prices would not have been changed.

* * *

THE present season is one of great activity in the rubber belting trade. The use of such belting is increasing, notwithstanding the claims of leather belting salesmen to the contrary, and the manufacturers say their leather making competitors are the least of their troubles. Speaking of this subject, a leading manufacturer drew a moral from an editorial in THE INDIA RUBBER WORLD for February under the caption, "The Capacity of the Rubber Industry." Said he: "In the manufacture of belting, as in other things, it is having the name and reputation and the goods to sustain these that count. While there is an increasing demand for rubber belting, the same as there is an increasing demand for automobile tires, it does not follow that the field offers an especially inviting prospect for a large investment of new capital—more inviting than another line of activity. There is the same amount of room in almost any other business for the right men and the right goods."

* * *

THE demand for golf balls was probably never greater than now. The decision of the professional golfers' association of Great Britain to bar the rubber cored ball from their contests seems rather to have helped than retarded the progress of such balls into popular favor, by advertising them more extensively than they have ever been hitherto. And the amateur golfers, who, by the way, support and in a very great many instances employ the professional golfers, are still using the rubber cored ball and in the leading golf publications ridiculing the stand of the professionals. Evidence of the increased demand for the rubber cored ball is found in the fact that the Haskell Golf Ball Co., who a year ago were far behind in their orders, though making a little more than 100 dozen balls per day, are now still behind, though they are producing, and shipping as fast as they are manufactured, 1000 dozen per day. Thus far the company have been unable to accumulate a surplus stock. Of course such stocks are accumulating, but they are in the hands of the jobbers and dealers, and the beginning of the season, as pertains to the country at large, will find the Haskell company still working overtime on goods for immediate delivery. At least such are the present indications.

Some of the rubber manufacturers are so busy within other departments that they are not pushing their golf ball business. The Diamond Rubber Co., for instance, brought out the "King William" ball last season, and marketed enough of them to be convinced of their success. The rush in the other departments, however, notably on tires, has kept the company from entering the golf ball field this year, and the "King William" and its companions of the Diamond company must lie by awhile.

The Goodyear Tire and Rubber Co. have been getting ready for some time to push their Saunders compressed air ball. The rush of work in other departments has also delayed work with them. It is expected, however, to get the Saunders ball upon the market in quantities sufficient to draw attention to it within a few weeks.

The Whitman and Barnes Manufacturing Co. are making no golf balls this season.

A large number of tennis balls are being manufactured by The India Rubber Co. for an outside concern. The demand is keeping that department of the India company's works busy night and day.

* * *

THE large five story building into which the Diamond Rubber Co. moved their tire departments last spring has been heated throughout the winter, thus far, even in zero weather, by means of the steam first used in the engines and vulcanizers. This economy has been found very successful, giving an even, continuous heat, practically without cost, as the steam would otherwise be wasted.

The shareholders of the Alden Rubber Co., at their annual meeting on February 4, authorized an increase in the capital stock of the company from \$110,000 to \$220,000, and the capacity of the plant is to be practically doubled. Plans for additions are now being prepared. The company will make a general extension of their present lines. Several changes were made in the *personnel* of the company, E. L. Toy, vice president, and A. J. Commins, secretary, retiring from active participation in the company, save that Mr. Toy continues to be a director. W. A. Johnston, president of the American National Bank of Barberton, and treasurer of the Pure Gum Specialty Co., was elected to the directorate, and became treasurer of the company. Wilmer Dunbar, heretofore holding an important position with the company, was elected vice president and general manager. The other officers are: I. C. Alden, president; Mark Hayne (formerly treasurer), secretary; George C. Kohler, general counsel.

The Lilly Rubber Manufacturing Co. (Barberton, Ohio) was incorporated under Ohio laws, on February 13, with an authorized capitalization of \$10,000. This is the company promoted by Charles Ammerman, president of the First National Bank of Barberton, and referred to already in this correspondence. W. C. Lilly, formerly with The B. F. Goodrich Co., is the practical man of the concern, which already has begun manufacturing dipped and molded goods. The officers are: Charles Ammerman, president; E. E. Beam (Ashtabula, O.), vice president; H. C. Benner, secretary and treasurer; W. C. Lilly, general manager. The officers, and M. J. Flattery, of Pittsburgh, Pa., constitute the board of directors.

The Buckeye Rubber Co. have lately taken on the manufacture of rubber horseshoe pads, and are very busy in the new department as well as in their tire departments. S. S. Miller, the manager of the company, states that the use of rubber horseshoes is rapidly increasing, and that the demand this year will far surpass that of any previous season. In their tire departments the Buckeye company booked twice as many orders in January as during the same month last year. The factory is in operation day and night.

Peter Kiefer filed suit against The Diamond Rubber Co. on February 10, asking damages in the sum of \$1995 upon the alleged ground that he was blacklisted by the Diamond company for suspected sympathy with the union labor movement last October, and thereby prevented from securing other employment. In his petition Kiefer says he was for nearly seven years an employé of the company and, becoming an expert stock-

cutter, was able to earn \$3 and \$3.50 per day. He avers that he was discharged without reason, and that when he asked for employment at other factories in Akron, persons to whom he applied referred to a list they had and told him there was nothing for him, though at the time the different companies were advertising for men. The case is almost identical with that of Schaeffer v. the New York, Chicago and St. Louis Railroad Co., decided by the supreme court of Ohio in 1902, in which the judgment was in favor of the company, it being held that an employer could not be required to give a reason for discharging or refusing to employ any person. In this instance Schaeffer had been implicated in a strike. Attorneys for The Diamond Rubber Co. will file a demurrer to Kiefer's petition upon the precedent established in the case cited.

The labor situation remains quiet in the rubber industry. The union organized last June is just about holding its own now, but it is expected that the national convention of the Amalgamated Rubber Workers' Union, to be held here in June, will create some enthusiasm among the local rubber workers. The other local unions in Akron are expected to assist in entertaining the visiting rubber workers. It is thought that about fifty delegates will attend the convention.

W. B. Tuttle and W. R. Harris, of the Combination Tire and Supply Co., were in Albany, N. Y., recently, to obtain the dissolution of their company, they having a New York charter. The internal affairs of the company rendered this step advisable. Directly this is accomplished a new company will be incorporated in Ohio, with a capital probably of \$25,000, to be known as the Harris Tire Co.

The Diamond Rubber Co. are increasing their facilities for manufacturing hard rubber goods, and will give that department more attention this spring than ever before. Battery jars, tubing, and rods are being produced in considerable quantities. The company have had difficulty in obtaining help.

Among the Akron men attending the Chicago automobile show in February, in connection with exhibits of their companies, were F. H. Mason and H. E. Raymond of The B. F. Goodrich Co.; H. J. Dingman of the Goodyear Tire and Rubber Co.; W. B. Hardy and Theodore Weigle of the Diamond Rubber Co.; H. C. Firestone of the Firestone Tire and Rubber Co.

The undertaking of the Richland and Mahoning Railroad Co. to build a new road from Akron to Mogadore, to connect with the Wheeling and Lake Erie railroad there (backed by the Gould people, as newspaper reports declare), will give the Goodyear Tire and Rubber Co. improved shipping facilities. The proposed road will pass directly back of their factory, and will be an extension of the Northern Ohio railroad, giving the company direct access to two important lines.

* * *

THE Canton Hard Rubber Co. (Canton, Ohio) are about to extend their line of production and engage in the manufacture of hard rubber goods in general. The concern is owned by the interests which owned the Canton Pole and Shaft Co., which recently consolidated with the Pioneer Pole and Shaft Co., embracing the principal factories of the kind in the United States. The owners now have more time and capital to devote to their rubber factory, and while continuing the manufacture of hard rubber harness mountings, as heretofore, will branch out as rapidly as they find their business warrants. The company's employes are chiefly from the Crown Point (Akron) factories of the American Hard Rubber Co.

THE INDIA RUBBER WORLD's correspondent found the Canton Rubber Co. (Canton, Ohio) well pleased with the business they are doing, and contemplating additions to their present lines of molded and dipped goods.

REVIEW OF THE CRUDE RUBBER MARKET.

DURING February the market for Pará sorts advanced, with the result of regaining in large part the decline experienced in January, though the same is not true of Africans and Centrals, some grades of which are quoted at this date lower than one month ago. The market continues in a state of uncertainty, with prices still below what the statistical situation might be thought to justify, and while deliveries in the aggregate are considerable, consumers have not been buying with the freedom that characterized the market during the closing months of 1902. This is no indication of inactivity in the industry, however. The weather has been unexceptionally favorable for the sale of rubber footwear, and the factories in that branch not only have been busier than for many winters, but they still have large orders ahead. Every other branch of rubber manufacture is similarly active. New factories have been getting to work, and additions made to old ones, at a rate which has taxed the capacity of makers of rubber machinery, with the result that second hand machinery has been in such demand as practically to exhaust the supply. There are practically no factories standing closed. But manufacturers are not buying more rubber than they are compelled to.

The market has been unsettled slightly by the reported embarrassment of a Liverpool firm of rubber merchants. Their trouble, however, has not been due to an oversupply of rubber, with a falling market, as was true of a notable failure in New York last year, but to selling rubber which they did not hold, and an advance in the market beyond their selling prices.

The disturbances in the Acre territory are to be settled by negotiations between Bolivia and Brazil, which will remove an obstacle to gathering rubber in that important district, but the effect cannot be an early increase in supplies. Not only has navigation been checked on the Acre, but the rubber gatherers were under arms at a time when, otherwise, they would have been gathering rubber.

There have been reported large arrivals of rubber at Manáos, however, from other upriver districts, and receipts at Pará during February were in excess of those for the same month last year—all of which gives the hope that, through some chance, the total output for the crop season may not be so much shorter than last year as the returns for several months indicated. The Pará receipts from July 1 to the following February 28 (eight months) in each of two years past, and to February 26 in the present year, have been as follows:

	1900-01.	1901-02.	1902-03.
Rubber..... tons	15,863	15,839	17,451
Caucho..... "	1,167	1,696	1,524
Total..... tons	17,030	20,535	18,975

These figures include 3605 tons of rubber to February 26, against 3075 for the whole of February last year, and 600 tons of Caucho against 315 tons last year.

New York quotations on February 27 were:

PARÁ.		Caucho (Peruvian) ball 65 @66	
Islands, fine, new....84	@85	AFRICAN.	
Islands, fine, old.....90	@91	Sierra Leone, 1st quality 77	@78
Upriver, fine, new....89	@90	Massai, red.....77	@78
Upriver, fine, old....94	@95	Benguella.64	@65
Islands, coarse, new....52	@53	Cameroon ball.....60	@61
Islands, coarse, old....	@	Gaboon flake.....35	@36
Upriver, coarse, new....72	@73	Gaboon lump.....37	@38
Upriver, coarse, old....	@	Niger paste.....20	@21
Caucho(Peruvian)sheet 53	@54	Accra flake.....20	@21

Accra buttons.....58	@59
Accra strips.....59	@60
Lopori ball, prime....78	@79
Lopori strip, do....76	@77
Ikelemba.....80	@81
Madagascar, pinky....77	@78

EAST INDIAN.

Assam.....	
Borneo.....38	@52

CENTRALS.

Esmeralda, sausage....66	@67
Guayaquil, strip.....59	@60
Nicaragua, scrap....65	@66
Panama, slab.....54	@55
Mexican, scrap.....65	@66

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	5\$650	Upriver, fine.....	6\$310
Islands, coarse.....	2\$850	Upriver, coarse.....	4\$800
Exchange, 11 $\frac{1}{2}$ ¢.			

Last Manáos advices:

Upriver, fine.....	6\$200	Upriver, coarse.....	4\$300
Exchange, 11 $\frac{1}{2}$ ¢.			

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total 1903.	Total 1902.	Total 1901.
Stocks, January 1.....tons	67	5 =	72	1139	958
Arrivals, January.....	1071	553 =	1624	1330	1094
Aggregating.....	1138	558 =	1696	2469	1752
Deliveries, January.....	915	528 =	1443	1130	1100
Stocks, January 31....	223	30 =	253	1339	652

PARÁ.			ENGLAND.		
	1903.	1902.		1903.	1902.
Stocks, Jan. 1.....tons	365	150		885	1299
Arrivals, January.....	2500	3825		1190	1156
Aggregating.....	2865	3975		2075	2455
Deliveries, January....	2710	3405		1025	1225
Stocks, Jan. 31....	155	510		1050	1230

	1903.	1902.	1901.
World's supply, January 31.....tons	2783	5329	3676
Pará receipts, July 1 to January 31.....	13,846	16,079	13,735
Pará receipts of Caucho, same dates.....	924	1381	
Afloat from Pará to United States, Jan. 31..	740	930	374
Afloat from Pará to Europe, January 31.....	585	1320	860

Para.

KANTHACK & Co. report [February 4]:

The tone of the market having lately given way to depression, a pronounced relapse has taken place, caused as much by the downward movement at the consuming centers as by the increasing receipts at Manáos. As these receipts, however, are not likely to go on increasing to the extent of last crop, if for no other reason than the shrinkage from the Acre district, the present state is regarded as a passing phase, to be followed by a revival of demand and an improvement in values. The Bolivian Acre affair is assuming a rather gloomy and perilous aspect, since the decision of the Brazilian government to despatch two important expeditions, ostensibly to protect their own frontiers and subjects.

RUBBER EXPORTS FOR SIX YEARS (IN POUNDS).

YEAR.	United States.	Europe.	Total.	Stocks Dec. 31.
1897.....	25,012,369	24,057,665	49,670,034	2,078,372
1898.....	21,671,801	26,628,790	48,300,591	2,945,346
1899.....	30,596,123	25,466,854	56,062,977	1,886,343
1900.....	27,413,469	31,556,635	58,970,104	2,052,481
1901.....	34,283,685	32,494,745	66,778,430	2,894,639
1902.....	30,555,463	32,385,380	62,940,843	2,407,423

Rubber Receipts at Manaos.

DURING January and for the first seven months of the crop season (by courtesy of Messrs. Witt & Co.):

FROM—	JANUARY.			JULY-JANUARY.		
	1901.	1902.	1901.	1901.	1902.	1901.
Rio Purús.....tons	720	1556	738	2635	3895	2450
Rio Madeira.....	178	250	261	1478	1800	1709
Rio Jurua.....	1226	747	425	2015	2340	1335
Rio Javary—Iquitos.....	257	87	177	1252	972	856
Rio Solimões.....	154	227	195	1076	1274	794
Rio Negro.....	120	92	99	325	187	197
Total.....	2661	2959	1895	8781	10528	7341
Caucho.....	596	517	266	1196	1613	807
Total.....	3257	3476	2161	9977	12141	8148

The table indicates a shortage of 2164 tons in receipts at Manaos for seven months compared with the same period last season. A correspondent up the Amazon writes, however, to THE INDIA RUBBER WORLD: "Should the war clouds blow away, it seems probable that the crop will be better than last year's; the difference will not be great, anyway." Reference is made to the troubles on the Acre river, which, it now appears, will reach a peaceable settlement.

London.

EDWARD TILL & CO., February 2, report stocks:

LONDON		1903.	1902.	1901.
		tons		
{	Pará sorts.....	24	134	193
	Borneo.....	2	54	20
	Assam and Rangoon.....	192	414	730
	Other sorts.....	218	602	943
Total.....		218	602	943
{	Pará.....	1045	1241	1082
	Other sorts.....	658	831	1104
Total, United Kingdom.....		1921	2674	3129
Total January 1.....		1582	2794	2901
Total, December 1.....		2083	2525	3061
Total, November 1.....		2337	2602	3040
Total, October 1.....		2464	2802	2846

PRICES PAID DURING JANUARY.

	1903.	1902.	1901.
Pará fine, hard.....	3/8 @3/10 1/2	3/2 1/2 @3/6 1/2	3/7 @3/10 1/2
Do soft.....	3/7 @3/9	3/7 @3/9 1/4	3/7 @3/9 1/4
Negroheads, Islands.....	2/5 @2/6	@2/-	2/1 1/2 @2/2
Do scrappy.....	2/3 @3/0 1/4	2/7 1/4 @2/8 3/4	2/9 @2/9 1/2
Bolivian.....	No sales.	No sales.	No sales.

FEBRUARY 13.—The market has been rather disorganized this week, owing to a certain rubber importing house in Liverpool being in difficulties, but at the close a rather better tone prevails. There is little change in prices. A moderate business has been done in Pará, comprising fine hard, spot, at 3s. 6 1/2d., March-April delivery, 3s. 6 3/4d., April-May, 3s. 7d., and May-June 3s. 7 1/4d. @3s. 7 1/2d. Fine soft cure sold spot and near at 3s. 6d. @3s. 5 1/2d. Negroheads lower; sales Manaos at 2s. 10 1/2d., and Cametás at 2s. 3d. Peruvian fine, 3s. 6 3/4d.; scrappy, 2s. 9d. @2s. 10 1/2d.; ball, 2s. 9 1/2d. @2s. 9 3/4d.

Medium sorts scarce and in good demand; at auction to-day sales were made at generally steady prices. Madagascar: Mixed pinky and Majunga, 2s. 8d. @2s. 9 1/4d. Majunga and dark coated, 2s. 4d. Mozambique: Stickless sausage, 3s. 2 1/2d.; fair red ball, 3s. 1d.; Beira ball, 3s. @3s. 1d.; Lamu ball, 2s. 8d. Uganda: Clean ball, 2s. 0 1/2d. Central American: Weak scrap, 2s. @2s. 2 3/4d.; slab, sheet, and strip, 1s. 7d. @1s. 10d.

Balatá—120 packages offered and bought in, the value of sheet being 2s. 5d., and block 1s. 11 1/2d. On January 23 at auction 161 packages offered and 6 sold—fair unsorted sheet at 2s. 4d.; inferior ditto at 2s. 1d.; inferior perished at 1s. 3d. Venezuelan block was all bought in.

Liverpool.

WILLIAM WRIGHT & CO. report [February 2]:

Fine Pará.—During the first half of the month the market was strong and active, and prices advanced another 2d. per pound, since

when time there has been a slight reaction, and the market closes quiet at 3s. 8d. for Upriver, and 3s. 7d. for Islands. This decline was anticipated in our last, but it is only of a temporary character. Receipts are extremely small, and the crop will undoubtedly be short. Stocks in America are practically nil, and at the present rate of demand, we anticipate, after the heavy receipts are over, a further decided rise in prices above present rates. Manufacturers must bear in mind the present situation does not arise from "bull" or "bear" manipulation, but is due to the law of supply and demand, and we think they would act wisely in taking advantage of any temporary set back in prices. We repeat again that, taking prices paid for good medium grades, fine Pará is still the cheapest rubber.

EDM. SCHLÜTER & CO. report Liverpool stocks [January 31]:

Pará—First hands:		Pará—Second hands:	
Fine.....	tons 451	Fine.....	tons 356
Medium.....	49	Medium.....	22
Negroheads.....	142	Negroheads.....	25
Total.....	642	Total.....	403
Peruvian.....	84 tons.	Maniçoba.....	936 pkgs.
Mollendo.....	61 pkgs.	Ceará.....	321 "
Mangabeira.....	13 "	Assare.....	"
Pernambuco.....	133 "	Africans.....	432 tons.

Bordeaux.**PRICES [IN FRANCS PER KILOGRAM].**

Sierra Leone sorts:	Cassamance AP.A.....	7 50@7 70	
Niggers, red I...	8 65@8 75	Cassamance AM.B....	5. @6.
Niggers, white I...	8.40@8.65	Mayumba	4 35@5 50
Niggers, white II...	6 45@6 95	Madagascar :	
Twists.	7.85@8.30	Pinky.....	7.50@8.
Grand Bassam :		Black.....	6.5@7.
Lumps.....	5.20@5.65	Niggers..	4 50@7.
Cakes.....	5 54@5 90	Java.....	7.25
Gold Coast lumps.....	5.54@5 70	New Caledonia...	7.75
February 9, 1903.		R. HENRY.	

Hamburg.**PRICES [IN MARKS PER KILOGRAM].**

Mozambique ball:	Mozambique spindles..	7 35@7.40	
"Donde," finest ..	7 90@8.	Massé niggers.....	7 18@7.25
"Mahenge," finest..	7.75@7.90	Adeli ball.....	7.45@7 55
"Nyassa," fine.....	7.25@7.35	Gambia ball.....	6. @6.10
Pinky, good.....	7. @7 10	Bissao ball.....	5 80@5.90
White, good.....	6.80@6 85	Guayaquil scrap.....	6 75@6.80
Beira, fine.....	7. @7.10	Pará fine.....	8 20@8 25
Good unripe.....	5 20@5 30	Manaos negrohead.....	6 60@6 65
Hamburg, February 14, 1903.			

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Antwerp rubber market showed much firmness during January. At the sale of January 27 617 tons found buyers, out of 623 tons offered. Competition was brisk and prices were on an average 50 centimes per kilogram higher than the estimations—or an advance to 6 or 7 per cent. The principal lots sold were:

	Valuation.	Sold.
80 tons Upper Congo (mixed with Loanda).....	francs 7 95	8.50
36 " Aruwimi.....	7.75	8.35
27 " Aruwimi.....	7.50	8.05
51 " Mongalla strips.....	7 75	8 27 1/2
22 " Mongalla strips.....	7 50	8 27 1/2
35 " Uelé strips.....	7.65	8.50
14 " Equateur.....	8 25	8.62 1/2
11 " Upper Congo small strips.....	7.85	8.12 1/2

At the small Friday sale of February 13, when 48 tons were sold out of 51 tons offered, some weakness was shown. Prices were irregular. In some instances 2 and 3 per cent. below valuations—i.e., on the high values of the January sale.

The next monthly sale, on February 20, will be small, as only about 130 tons will be offered, including the following:

	Valuation.
35 tons Aruwimi.....	francs 8 05
12 " Aruwimi (mixed with Upper Congo).....	8.40
30 " Mongalla, small strips.....	8.30
13 " Yengu (Upper Congo) small pieces.....	8.75

After the January sale stocks amounted to 106 tons, to which should be added 352 tons since arrived by the *Philippeville*.

C. SCHMID & CO.

Antwerp, February 12, 1903.

RUBBER ARRIVALS AT ANTWERP.

JAN. 29.—By the *Philippeville*, from the Congo:

Bunge & Co. (Société Générale Africaine) kilos	230,190	
Do (Société Anversoise)	3,906	
Do (Chemins de fer des Grand Lacs)	4,313	
Do (Comité Spécial Katanga)	2,133	
Do (Sultanats du Haut Ubangi)	717	
Do (Société "La Kotto")	726	
Comptoir Commercial Congolais	17,500	
Société Coloniale Anversoise (Cie. du Kassai)	54,000	
Do (Belge du Haut Congo)	1,500	
Th. De Bruyne (Cie. du Kouango Français)	10,000	
Charles Dethier (La Haut Sangha)	6,700	
Société Agricole & Commerciale de l'Alima	2,050	
Comptoir des Produits Coloniaux (Cie. de l'Ekelé Sangha)	14,000	
Do (Cie. de la Kadeia Sangha)	1,400	
W. Mallinckrodt & Co. (Cie. des Caoutchoucs & Produits de La Lobay)	3,500	352,635

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

February 2.—By the steamer *Bernard*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
New York Commercial Co.	58,400	10,500	42,800	...	111,700
United States Rubber Co.	3,000	...	45,500	40,500	98,000
A. T. Morse & Co.	1,100	...	67,200	...	68,300
William Wright & Co.	6,700	800	11,900	...	19,400
L. Hagenaers & Co.	9,500	1,700	7,000	...	18,500
Kramrisch & Co.	...	...	11,800	...	11,800
H. A. Gould Co.	5,000	300	3,200	...	8,500
Poel & Arnold.	...	...	7,200	...	7,200
G. Amsinck & Co.	...	...	400	1,600	2,000
Total.	84,000	13,300	197,000	51,100	345,400

PARA RUBBER VIA EUROPE.

JAN. 24.—By the <i>Celtic</i> =Liverpool:	POUNDS.
Poel & Arnold (Fine)	61,000
William Wright & Co. (Fine)	16,000
George A. Alden & Co. (Fine)	5,500
JAN. 26.—By the <i>Etruria</i> =Liverpool:	
Poel & Arnold (Fine)	22,000
FEB. 2.—By the <i>Bordetux</i> =Havre:	
A. T. Morse & Co. (Fine)	21,000
FEB. 3.—By the <i>Segurana</i> =Mollendo:	
J. M. Parr's Sons (Fine)	2,000
FEB. 11.—By the <i>Ibernia</i> =Liverpool:	
Poel & Arnold (Fine)	55,000
Poel & Arnold (Coarse)	22,000
FEB. 14.—By the <i>Germanica</i> =Liverpool:	
Poel & Arnold (Coarse)	11,000
Edmund Reeks & Co. (Fine)	5,000
Edmund Reeks & Co. (Coarse)	2,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

JAN. 24.—By the <i>Alamo</i> =Mobile:	POUNDS.
A. T. Morse & Co.	2,500
Manhattan Rubber Mfg. Co.	2,200
JAN. 26.—By the <i>Vigilancia</i> =Mexico:	
E. Steiger & Co.	2,000
H. Marquardt & Co.	2,000
Theband Brothers	1,300
R. N. Tibbals & Co.	1,100
D. N. Carrington & Co.	1,000
American Trading Co.	500
Samuels Brothers	300
Harburger & Stack	300
L. N. Chemedlin & Co.	300
Graham, Hinkley & Co.	300
JAN. 27.—By the <i>Finance</i> =Colon:	
Hirzel, Feltman & Co.	15,000
Mecke & Co.	9,700
Isaac Brandon & Bros.	5,700
A. Santos & Co.	3,900
Roldan & Van Sickle	2,800
Dumarest & Co.	2,700
American Trading Co.	1,700
Eggers & Heinlein	1,200
Piza, Nephews & Co.	900

CENTRALS—Continued.

G. Amsluck & Co.....	500	
W. R. Grace & Co.....	500	
D. A. De Lima & Co.....	400	
F. Lopez.....	200	45,200
JAN. 27.—By the <i>Valencia</i> =Greystown:		
E. B. Strout.....	6,000	
A. D. Straus & Co.....	4,000	
G. Amsinck & Co.....	4,000	
Roldan & Van Sickle.....	4,500	
Lawrence Johnson & Co.....	500	19,000
JAN. 30.—By the <i>El Monte</i> =New Orleans:		
A. T. Morse & Co.....	12,000	
Samper & Co.....	2,000	
Eggers & Heinlein.....	2,000	
A. S. Lascallas & Co.....	200	16,200
JAN. 31.—By the <i>Monterrey</i> =Mexico:		
E. Steiger & Co.....	1,000	
L. N. Chemedlin & Co.....	300	
Graham, Hinkley & Co.....	200	1,500
FEB. 2.—By the <i>El Cid</i> =Galveston:		
W. Loalza & Co.....	4,000	
A. T. Morse & Co.....	1,000	5,000
FEB. 3.—By the <i>Altai</i> =Savanna, etc.:		
Knobhardt & Co.....	3,000	
Jimenez & Escobar.....	700	
J. H. Recknagel & Co.....	500	4,200
FEB. 3.—By the <i>Segurana</i> =Colon:		
Hirzel, Feltman & Co.....	14,500	
G. Amsluck & Co.....	5,400	
American Trading Co.....	4,900	
Lawrence Johnson & Co.....	4,200	
Isaac Brandon & Bros.....	2,900	
Andreas & Co.....	2,500	
Fidanque Bros. & Co.....	1,500	
Silva Bussenius & Co.....	2,800	
Knobhardt & Co.....	2,400	
D. A. De Lima & Co.....	1,200	
E. Scheitlin & Co.....	1,400	
Harburger & Slack.....	700	
Jimenez & Escobar.....	900	45,100
FEB. 9.—By the <i>Egyptian Prince</i> =Bahia:		
Booth & Co.....	7,500	
J. H. Rossbach & Bros.....	5,100	12,600
FEB. 10.—By the <i>City of Washington</i> =Colon:		
Hirzel, Feltman & Co.....	11,000	
L. N. Chemedlin & Co.....	5,400	
G. Amsinck & Co.....	5,400	
Isaac Brandon & Bros.....	2,600	
D. A. De Lima & Co.....	2,300	

CENTRALS—Continued.

American Trading Co	2,100	
Joseph Hecht	600	29,400
FEB. 10.—By the <i>Excelsior</i> =New Orleans:		
A. T. Morse & Co	5,000	
Manhattan Rubber Mfg Co	3,500	8,500
FEB. 11.—By the <i>Alleghany</i> =Greystown:		
E. B. Strout	11,000	
A. D. Straus & Co	2,000	
G. Amsinck & Co	2,200	
Andreas & Co	1,000	
Roldan & Van Sickle	600	16,800
FEB. 13.—By the <i>Camocus</i> =Bahia:		
J. H. Rossbach & Bros		7,500
FEB. 16.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co	14,000	
Manhattan Rubber Mfg Co	8,500	
A. N. Rotholz	2,000	
Eggers & Heinlein	4,000	28,500
FEB. 16.—By the <i>Esperanza</i> =Mexico:		
E. Steiger & Co	5,500	
For Hamburg	2,500	
Samuels Brothers	1,500	
F. Probst & Co	1,500	
H. Marquardt & Co	1,000	
Theband Bros	300	
Isaac Kubie & Co	200	12,500
FEB. 17.—By the <i>Alliance</i> =Colon:		
Hirzel, Feltman & Co	3,400	
L. N. Chemedlin & Co	3,100	
Lawrence Johnson & Co	4,000	
Fidanque Bros. & Co	2,500	
A. Santos & Co	2,600	
Dumarest & Co	1,700	
Piza, Nephews & Co	1,700	
Ascensio & Cossio	2,100	
Eggers & Heinlein	1,000	
G. Amsinck & Co	1,000	
Frame & Co	900	
Knubhardt & Co	800	
E. B. Strout	600	
A. N. Rotholz	500	
Roldan & Van Sickle	300	
R. G. Barthold	200	
Jimenez & Escobar	200	26,600
FEB. 19.—By the <i>Byron</i> =Bahia:		
J. H. Rossbach & Bros		15,000
FEB. 19.—By the <i>El Rio</i> =New Orleans:		
G. Amsinck & Co	2,000	
Eggers & Heinlein	800	2,800

February 9.—By the steamer *Hilabrant*, from Manáos and Pará:

Poel & Arnold	229,400	73,300	103,000	7,900	413,600
New York Commercial Co.	187,100	46,800	106,200	...	340,100
A. T. Morse & Co.	83,300	13,500	84,700	...	181,800
William Wright & Co.	94,800	14,400	55,000	3,000	167,200
Edmund Reeks & Co.	14,100	4,700	3,700	81,700	104,200
United States Rubber Co.	15,200	2,000	49,500	20,900	87,600
G. Amsinck & Co.	12,100	3,000	1,200	26,100	42,400
L. Hagenaers & Co.	8,400	...	14,600	...	23,000
Lawrence Johnson & Co.	...	...	...	13,900	13,900
H. A. Gould Co.	5,400	1,400	2,100	...	8,900
Hagemeyer & Brunn	2,800	...	3,100	...	5,900
Total	652,600	159,400	423,400	153,500	1,388,900

February 17.—By the steamer *Grangese*, from Manáos and Pará:

A. T. Morse & Co.	178,500	49,400	159,200	17,600	404,700
Poel & Arnold	57,100	23,200	61,100	24,300	170,700
New York Commercial Co.	96,600	28,600	27,000	...	152,200
William Wright & Co.	30,900	5,000	26,900	6,000	68,800
Edmund Reeks & Co.	45,400	12,400	10,200	...	68,000
United States Rubber Co.	...	...	45,500	...	45,500
L. Hagenaers & Co.	13,300	...	11,000	...	24,300
H. A. Gould Co.	6,500	300	2,500	...	9,300
Total	428,300	123,900	343,400	47,900	943,500

February 24.—By the steamer *Caenense*, from Manáos and Pará:

A. T. Morse & Co.	124,500	50,100	126,500	44,800	345,900
Poel & Arnold	159,600	53,200	134,700	10,100	357,600
New York Commercial Co.	105,000	39,700	42,800	4,500	189,000
Edmund Reeks & Co.	56,500	12,700	22,500	...	91,700
United States Rubber Co.	9,000	...	45,500	25,800	80,300
Hagemeyer & Brunn	...	...	...	31,300	31,300
G. Amsinck & Co.	12,100	4,000	8,500	2,400	27,000
L. Hagenaers & Co.	14,700	...	8,500	...	23,200
Robinson & Tallman	8,100	1,000	1,700	...	10,800
H. A. Gould Co.	6,400	1,000	1,000	...	8,400
William Wright & Co.	3,200	1,400	500	2,400	7,500
Total	499,100	160,100	392,200	121,300	1,172,700

[NOTE.—The *Dominic* is due at New York on March 6, with 660 tons of Rubber and 40 tons Cauchó.]

AFRICANS.

	POUNDS.
JAN. 24.—By the <i>Celtic</i> =Liverpool:	
A. T. Morse & Co.	45,000
William Wright & Co.	7,000
	52,000
JAN. 25.—By the <i>Etruria</i> =Liverpool:	
Poel & Arnold.	47,000
H. A. Gould Co.	15,000
Otto Meyer.	11,000
Robinson & Tallman.	13,000
	86,000
JAN. 27.—By the <i>Kronland</i> =Antwerp:	
Joseph Cantor.	14,000
JAN. 27.—By the <i>Minneapolis</i> =London:	
H. A. Gould Co.	7,000
JAN. 29.—By the <i>Blucher</i> =Hamburg:	
A. T. Morse & Co.	72,400
George A. Alden & Co.	31,000
Poel & Arnold.	4,500
	107,500
JAN. 29.—By the <i>Philadelpia</i> =Liverpool:	
Poel & Arnold.	44,500
JAN. 30.—By the <i>Tulonic</i> =Liverpool:	
Poel & Arnold.	22,500
George A. Alden & Co.	17,000
A. T. Morse & Co.	13,000
H. A. Gould Co.	8,000
	60,500
FEB. 4.—By the <i>Saranda</i> =Liverpool:	
Poel & Arnold.	28,000
George A. Alden & Co.	29,000
Henry A. Gould Co.	22,500
A. T. Morse & Co.	11,000
Joseph Cantor.	8,500
	99,000
FEB. 5.—By the <i>Oerme</i> =Liverpool:	
Poel & Arnold.	15,000
Otto Meyer.	12,000
George A. Alden & Co.	11,000
Morgan & Wright.	23,000
	61,000
FEB. 11.—By the <i>Finland</i> =Antwerp:	
Poel & Arnold.	45,000
Robinson & Tallman.	5,500
A. T. Morse & Co.	4,000
	54,500
FEB. 11.—By the <i>Canadian</i> =Liverpool:	
Poel & Arnold.	55,000
George A. Alden & Co.	45,000
	101,000
FEB. 11.—By the <i>Iberia</i> =Liverpool:	
Poel & Arnold.	15,000
A. T. Morse & Co.	11,500
George A. Alden & Co.	3,500
	30,000

AFRICANS—Continued.

FEB. 14.—By the <i>Germanic</i> =Liverpool:	
A. T. Morse & Co.	35,000
Poel & Arnold.	28,000
	63,000
FEB. 15.—By the <i>Bulgaria</i> =Hamburg:	
A. T. Morse & Co.	17,000
Poel & Arnold.	16,000
George A. Alden & Co.	11,000
Otto Meyer.	4,000
William Wright & Co.	4,500
	52,500
FEB. 18.—By the <i>Vanderland</i> =Amwerp:	
George A. Alden & Co.	50,000
Poel & Arnold.	26,000
For Boston.	170,000
	776,000
FEB. 21.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold.	15,000
A. T. Morse & Co.	10,000
Earle Brothers.	3,500
	28,500
EAST INDIAN.	
JAN. 29.—By the <i>Blucher</i> =Hamburg:	
Poel & Arnold.	22,000
FEB. 2.—By the <i>St. Paul</i> =London:	
Poel & Arnold.	15,000
FEB. 13.—By the <i>Mesaba</i> =London:	
Poel & Arnold.	16,000
PONTIANAK.	
FEB. 2.—By the <i>Kennebec</i> =Singapore:	
Poel & Arnold.	225,000
George A. Alden & Co.	38,000
William Wright & Co.	150,000
Robert Brann & Co.	165,000
	578,000
FEB. 5.—By the <i>Border Knight</i> =Singapore:	
William Wright & Co.	245,000
George A. Alden & Co.	125,000
J. H. Recknagel & Co.	90,000
	460,000
GUTTA-PERCHA AND BALATA.	
JAN. 29.—By the <i>Blucher</i> =Hamburg:	
E. Oppenheim.	6,000
FEB. 2.—By the <i>Kennebec</i> =Singapore:	
Poel & Arnold.	4,500
William Wright & Co.	13,000
Robert Brann & Co.	8,000
	25,500
FEB. 16.—By the <i>Bulgaria</i> =Hamburg:	
E. Oppenheim.	7,000
Earle Brothers.	1,500
	8,500

GUTTA-PERCHA AND BALATA.—Continued.

FEB. 20.—By the <i>Boric</i> =Liverpool:	
Royal Niger Co.	11,500
BALATA.	
JAN. 29.—By the <i>Prins Maurits</i> =Surinam:	
G. Amsinck & Co.	1,000
FEB. 2.—By the <i>Munich</i> =London:	
Earle Brothers.	2,500
FEB. 9.—By the <i>Martecas</i> =Trinidad:	
Heiland Brothers.	1,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JANUARY.

Imports:	POUNDS.	VALUE.
India-rubber.	5,782,136	\$3,339,132
Gutta-percha.	26,979	9,608
Gutta-jelutong (Pontianak).	322,746	7,218
Total.	6,131,861	\$3,355,958
Exports:		
India-rubber.	38,161	\$25,976
Reclaimed rubber.	43,972	5,842
Rubber Scrap Imported.	1,233,155	\$3,600

BOSTON ARRIVALS.

	POUNDS
JAN. 2.—By the <i>Armenian</i> =Liverpool:	
Poel & Arnold—Coarse Pará.	15,020
JAN. 7.—By the <i>Iowa</i> =Liverpool:	
George A. Alden & Co.—African.	7,356
JAN. 15.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—African.	11,109
JAN. 16.—By the <i>Michigan</i> =Liverpool:	
Poel & Arnold—Cancha.	6,333
JAN. 21.—By the <i>Armenian</i> =Hamburg:	
Otto Meyer—African.	9,815
JAN. 23.—By the <i>Sachem</i> =Liverpool:	
Poel & Arnold—African.	1,533
Total Imports.	51,166
[Value, \$30,641.]	
GUTTA-PERCHA.	
JAN. 23.—By the <i>Sachem</i> =Liverpool:	
George A. Alden & Co.	5,639

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.	4,858,874	194,033	4,664,841
January-November.	46,007,025	3,070,587	42,936,441
Twelve months, 1902.	50,865,902	3,264,620	47,601,282
Twelve months, 1901.	55,142,810	3,725,555	51,417,255
Twelve months, 1900.	49,337,183	3,849,276	45,487,907

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.	2,973,520	1,075,800	1,897,720
January-November.	30,089,840	12,643,400	17,446,440
Twelve months, 1902.	33,063,360	13,719,200	19,344,160
Twelve months, 1901.	28,649,250	11,027,500	17,621,750
Twelve months, 1900.	29,527,080	10,493,340	19,033,740

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.	1,244,980	243,540	1,001,440
January-November.	14,144,460	45,316,000	45,828,460
Twelve months, 1902.	15,389,440	8,559,540	6,829,900
Twelve months, 1901.	16,141,180	9,550,560	6,590,620
Twelve months, 1900.	16,273,180	9,984,700	6,288,480

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.	4,048,352	2,827,664	1,220,688
January-November.	42,921,643	29,548,448	13,073,200
Twelve months, 1902.	46,970,000	32,676,112	14,293,888
Twelve months, 1901.	52,245,088	32,004,704	19,340,384
Twelve months, 1900.	57,488,032	32,885,888	24,602,144

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.			
January-November.	1,409,540	107,360	1,302,180
Twelve months, 1902.			
Twelve months, 1901.			
Twelve months, 1900.			

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1902.	237,160	3,080	234,080
January-November.	2,306,900	12,540	2,384,360
Twelve months, 1902.	2,634,060	15,620	2,618,440
Twelve months, 1901.	2,643,740	25,080	2,618,660
Twelve months, 1900.	2,504,920		

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes from the United States embrace the supplies for Canadian consumption. Italian, French, and Austrian figures include Gutta-percha. The exports * Commerce General. a Corrected figures

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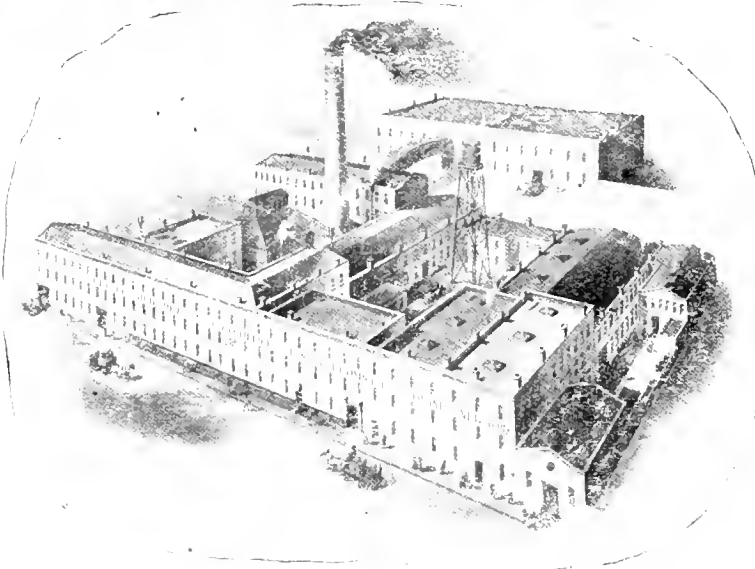
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